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functional
ISOMETRIC
CONTRACTION
SYSTEM

A COMPLETELY NEW SYSTEM OF TRAINING

By BOB HOFFMAN

THE BOB HOFFMAN FOUNDATION 26-52 Ridge Ave., York, Pa.



BOB HOFFMAN

True Facts About Your Instructor

BOB HOFFMAN is widely known as the Father of American Weight Lifting. Often called Mr. Physical Fitness, he has spent a life time, more than a half century in the quest for strength and super health. He has done well and is considered a leading contender for the title, World's Healthiest Man. He has not had even a simple headache for more than fifty years, has not lost a single hour from school, work, athletics or anything he wanted to do during that time due to illness. He won in his competitive days, more than 600 athletic trophies for competition in a wide variety of sports, particularly weight lifting. In weight lifting he was the A.A.U. National heavyweight champion, and after he became a professional writer and teacher, he was the Professional Weight Lifting Champion of America.

For ten years he was the one hand lifting champion of the world and established records of 282 in the one hand lift overhead. On his 50th birthday he made a record of 268, one hand lift overhead (56-1/2 pounds more than the previous world's record for men of that age) when he was 60. He lifted 250 pounds overhead with one arm. He has long practiced what he preaches, and he has preached well, as illustrated by the fact that his York teams have been National team weight lifting champions for 29 years. Bob Hoffman has been U.S. national coach and an Olympic Weight Lifting Coach since 1932. He was head coach in 1949, 1952 and 1956. While his team won Olympic team titles, the American team was second in 1960, just 6 points behind, but still second. We hope the training system offered in this course, will make American weight lifters first the next time.

For 38 years, Bob Hoffman has been publisher and editor of Strength and Health Magazine, the leading magazine in the Strength, Exercise and Physical Fitness Field. He is the author of twenty books on physical training, exercise and health. He is the author of the Four Famous York Courses which were published in 1927. Bob Hoffman's Simplified System of Barbell Training which was issued in 1940, the Advanced Methods of Weight Training, which was issued in 1950. He prepared many other courses such as his world famous Daily Dozen, the Abdominal Course, etc., etc., which have sold many millions of copies. We believe that this course too will be an epic in the forward progress of strength and muscle building.

Bob Hoffman has travelled the world in his quest for better strength and muscles building information. This year of 1961 as this is written, he has made two trips to Russia with American teams. He has travelled to Japan and China, to South America and Africa, to Europe—all in behalf of weight lifting, at which he is the world's leader. And he has had a rare opportunity to learn the training methods in other countries and check them with ours. Certainly he is well qualified to prepare this new course in Isometric-Iso tonic Super Power training.

For a lifetime, Bob Hoffman has been interested in research which may lead to better health, more strength and greater physical ability. To further this type of research on a non-profit basis, he has formed the Bob Hoffman Foundation, dedicated to building a stronger and healthier America. The work of this foundation will be to discover new methods of cell growth, muscle and strength development, as well as the physical rehabilitation of handicapped individuals.



The Shah of Iran, greeting Bob Hoffman during a visit to Iran. The Shah is saying, "I have read your magazine since I was ten years old, I have some of your barbells." The Shah has a Mr. America type of Physique, the result of Sensible Physical Training with weights.



The man who so narrowly missed being president, Dick Nixon, greeting the coach of the returned American team, in his office in Washington.

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A Completely New System of Training



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SUCCESSFUL BOB HOFFMAN TRAINING METHODS

In 1927 I first prepared the York Barbell System of Training. After these many years, it is still the superior accepted method of basic weight training. Practically all of the great athletes in the nation, including the great weight lifters who have brought so much renown to America as well as the famous physique stars with their victories in the Mr. America and Mr. Universe contests, laid the basis for their muscular development and great strength with this system.

In 1940, as a system of war time training and a method of physical rehabilitation, Bob Hoffman's Simplified System of Barbell Training was offered. It was new, original, and time saving, just as important, it produced splendid results.

In 1950, we developed the York Advanced Methods of Weight Training. This complete system of training included 24 complete courses designed to develop all of the muscles. It was designed to develop the acme of physical power and super development. This system included 16 distinct methods of training:

1. The Single Progressive System.
2. The Double Progressive System.
3. The Three Days a Week Training System.
4. The Five Days a Week Training System.
5. Irregular Training.
6. Limited Programs.
7. The Heavy and Light System.
8. The Compound System.
9. Other Schemes of Progression.
10. The Set System.
11. Upper and Lower Body Training System.
12. Flushing the Muscles.

13. Overload System.
14. Specialization.
15. The Thousand Exercises.
16. Advanced Routines.

Of all these 16 advanced training methods, all but the single progressive, the three days a week and the limited program were originally and exclusively Bob Hoffman training principles. The important training principles were in the original York courses which have been offered to the strength and development seeking public for more than thirty years. We have lead in all phases of Body Building, others have followed.

It is not a happy accident that Bob Hoffman's men invariably win the greatest honors in strength, in weight lifting, in athletics and in physique contests. The plain, simple and understandable fact is that York men have followed **THE BEST WAY**, the world's best system of weight training. The champions have followed Bob Hoffman's methods, and that is why they are champions. Every weight lifting champion, every great physique champion, has followed Bob Hoffman's training methods, often to the exclusion of all other methods. All the champions have laid the foundation for strength and development through practice of the Bob Hoffman courses.

In addition to the courses mentioned, which have been milestones in the march of progress of efficient physical training, there have been other very successful courses by Bob Hoffman. These include: (1) The Swing Bell Course, 32 pages, 40 exercises, primarily a product of war time necessity, but a very good course under any circumstances or any conditions; (2) The Simplified

System of Dumbbell Training, another hour waste time-saving course which was developed to save time and energy as well as provide a good share of muscular development and health; (3) The System of Cable Training; (4) The Leg Developing Course; (5) The Abdominal Course, which has sold more courses than any other Bob Hoffman course; and (6) The DAILY DOZEN by Bob Hoffman, which may exceed all others in time.

With all of these successful courses, you may wonder why there should be another course of training, what can another course offer that we have not already supplied? What can we furnish to those who want the limit in weight lifting ability, in strength and physical perfection that has not already been offered in the courses which have served so well, in the 19 books Bob Hoffman has written, in the thousands of articles that Bob Hoffman has written.

The new isometric training system will have an important place in the realm of weight training. It will not replace the good courses which have proven their worth, but it will prove to be a time saver and super strength builder. It will bring superior results faster, with less effort, in far less time. It will be a body-saver, because its scientific methods build the maximum of strength and development, with a minimum strain upon the muscles, tendons and ligaments. When combined with the training principles, the exercises, the weight lifting training, and other long successful, superior Bob Hoffman methods, it will build strong men, superbly developed men, weight lifters and athletes, with an ability which has never been seen before. It applies force where force is needed. Dr. Drury and Al Roy prophecy that all world records will be broken within two years. Most of them will be broken and rebroken by means of training with this new and scientific Functional Isometric Contraction method.

The readers of this course will never realize the time, the study, the hard and continuous work, the research, the experimentation, the utilization of little known scientific principles, which has lead up to this system of training. I was almost a lone pioneer in formulating and proving the training systems included in the courses enumerated: I was almost a lone pioneer in weight training for athletes (going ahead very slowly for many years) until finally, like an avalanche, like a huge snowball, it became great—and the principle of weight training was accepted. The point is now reached where nearly all athletes are training with weights to improve their athletic ability, and those who don't train with weights, will simply be pushed around and defeated by those who are training with weights.

I wrote 19 books without assistance, and although I am writing this course, I have help, very worthy help. The material this book contains includes the thinking, the knowledge, the training, the research, the demonstrations, and persistent work of a number of men. It has been my work to coordinate, to assemble this jigsaw puzzle of scientific facts which make this new train-

ing system so great. I am fortunate indeed to be associated for years in this work with a medical doctor, a Ph.D., a professor of Physical Education, a famous trainer, and particularly, two great athletes who proved the truth, the superiority of these training principles we are offering, with experiments on their bodies. They risked their reputations as weightlifters. They took a big chance that if the little known principles they were to follow did not prove as successful as other methods, they would not win the national championships, or a coveted place on the world's championship team. Nevertheless, they put their whole hearted efforts into the new training system and were successful pioneers in this great training system which means so much to the future of our country.

Each of these men, with whom I am so closely associated, played a very important part in proving this system, in preparing it so that it is now offered as the greatest training system the world has ever seen. I am actually awestruck at the miracles it has already wrought, at the speed with which it develops great strength and improved functional condition, and all around physical ability. Muscles with all their health giving and health maintaining qualities, with their potential athletic ability, grow before my eyes, almost like a mushroom grows when conditions are favorable. Had you seen the miracles I have seen as a result of this new system of training, you too would be as thrilled, as excited, as happy as I am. After a life time spent in the search for strength and better strength building methods, we can now offer this faster, better method of building superior physical ability—through Functional Isometric Contraction Training.

THE DEVELOPMENT OF THE THEORY AND THE APPLICATION OF FUNCTIONAL ISOMETRIC CONTRACTION

The theory and application of Functional Isometric Contraction is the result of the combined efforts, the experience and the thinking of five men who were brought together by their mutual interest in the process of developing muscular strength. These men are John Ziegler, M.D. a physician from Olney, Md.; Bob Hoffman, the Father of weight lifting in the United States, and Olympic Weight Lifting Coach since 1932; Dr. Francis A. Drury, a professor of Physical Education at Louisiana State University; Alvin Roy, a former Olympic Weight Lifting Trainer, and Louis Riecke, a 34 year old competitive weight lifter with 15 years of weight lifting experience.

Dr. Ziegler who has done considerable muscular rehabilitation work, and cell growth research, became interested in applying some of the practices used in rehabilitation to the training of athletes. Bob Hoffman and Dr. Ziegler convinced Louis Riecke to act as a subject for the testing of the Functional Isometric Contraction system of training. Dr. Drury, who had known Louis Riecke from his college days when Riecke

was a member of the L.S.U. team, had also talked to Louie about the research on Isometric Contraction done at L.S.U. Alvin Roy, a close friend of Riecke, made the trip from Louisiana to California for the national weight lifting meet with Louie. Bob Hoffman followed this experiment by phone, by letter, by personal visit and encouraged Riecke to put his maximum effort back of the experiment. Louis Riecke's experiment was climaxed by his selection as a member of the five man team which went to compete against the Russians in Moscow, Leningrad, Kiev, Bilibi and later in London, England.

As a result of this lengthy and result producing experiment, all five of these men, the Medical doctor, the Olympic coach, the Professor, the Olympic Trainer and the Lifter agree that Functional Isometric Contraction is a truly superior method for developing strength.

WHAT IS FUNCTIONAL ISOMETRIC CONTRACTION?

Functional Isometric Contraction is a method of developing functional strength through static contraction of the muscles in the position the muscle is to be used. This system is especially applicable to many athletic sports, notably weight lifting. It is a new method and has proven to be a superior method of building functional and all around physical strength.

The Functional Isometric Contraction method of developing strength is the result of research done in several of our major universities in the United States and Europe. Psychology and Physiology of Exercise and Kinesiology are the sciences that contributed the basic scientific facts which are used as a foundation for this new system of weight training. Dr. Ziegler, Dr. Drury, Al Roy and Bob Hoffman are among the first in the world to apply this proven strength building principle to heavy exercise, heavy athletics, strength and muscle building.

The Functional Isometric Contraction method of training brings together all the known scientific facts of strength development and body mechanics. The resulting course offers the most up-to-date and most result producing concepts of strength development.

Functional Isometric Contraction is a scientifically proven, very rapid way to develop super strength. Functional Isometric Contraction will develop functional strength more quickly and completely than any other method known to man.

FUNCTIONAL ISOMETRIC CONTRACTION PRODUCES MAXIMUM MUSCLE TENSION

A muscle can produce energy in the form of heat and work. The heat and work produced by a muscle will work in reciprocal relation to each other. The amount of work may vary from zero to about 40% of the total energy produced. If resistance to the muscle is so strong that the muscle can not move the weight or object the muscle stiffens and does not shorten. This is pure Functional Isometric Contraction (meaning that the muscle continues to measure the same length.) All the muscle energy is used in tension and none in movement when

performing Functional Isometric Contraction. Consequently, it develops the maximum amount of muscle tension. This is one reason why Functional Isometric Contraction is a quick method of developing strength. More muscle Tension can be exerted by Functional Isometric Contraction than by Contraction, where by means of movement, the muscle is allowed to shorten and work. There is more cell action as a result of functional isometric contraction.

FUNCTIONAL ISOMETRIC CONTRACTION DEVELOPS MAXIMUM COORDINATED EFFORT

Another basic principle of the Functional Isometric Contraction System of training is that it develops maximum coordinated effort. It trains the muscles and the nervous system to give a maximum coordinated effort in the position of the needed force. The world record jumping of Valeri Brumel is a case of this form of coordinated effort, the ability to put forth a greater explosive effort which records a higher jump. Brumel has this ability. The old method of developing strength did not develop maximum functional strength in the position the strength was to be used. Functional Isometric Contraction trains the muscles and the nervous system to respond to their maximum in a functional position. This training for maximum coordinated effort is one of the new concepts of training. It trains the muscles to exert an explosive strength in the desired direction. This concept of training, as incorporated in the Functional Isometric Contraction System, results in greater strength and new records.



Steve Stanko, the first man in the world to total over 1000 (1940) 310 Press, 310 Snatch, 382 Clean and Jerk. After injuring his legs, turned body builder, won Mr. America title, and was the first Mr. Universe (1947).

FUNCTIONAL ISOMETRIC CONTRACTION—THE TRAINING SYSTEM OF THE FUTURE WORLD-RECORD HOLDERS

All weight lifting records will be broken in the next two years. In many cases broken and rebroken by men who use the Functional Isometric Contraction System of Training. The phenomenal rise of Louis Riecke is the result of Functional Isometric Contraction combined with a weight training program. Louis Riecke trained the best way he knew how, for 14 years using the old method of training and never became even one of the nations best lifters until he included the Functional Isometric System of Training. Now he is known over all the world, and is on the verge of breaking world's records.

By using the Functional Isometric Contraction System, in 6 months Riecke developed into one of the world's greatest lifters. This sensational improvement made by Louis Riecke can be made by all other lifters who follow this new system of training, the Isometric Contraction System, combined with weight lifting training.

Every lifter can not become a world champion, but every lifter can greatly improve his lifting records of the past by following this new, all-around system of training. In the next two years there will be tremendous gains made in all the lifts—the press, the snatch and the clean and jerk. These gains will be made by men who use this most modern system of training. If you want to keep up with the best lifters, if you want to build your strength and muscles to their maximum, you must start now to use the Functional Isometric Contraction System. All good lifters will be using this system in the near future, certainly in the next two years.

FUNCTIONAL STRENGTH— THE SECRET OF BETTER LIFTING

One of the important factors in Louis Riecke's sensational improvement was his rapid development of functional strength. Functional strength is having the strength in the body position where the strength is needed and is used. The Functional Isometric Contraction system develops functional strength by causing the lifter to execute all exercises in the position of movement used in competitive lifting. All lifters have seen men who looked strong but were not strong. Their muscles were developed by isolated exercises and movement, rather than by heavy weight lifting. These men do not have functional strength—they have isolated strength. They appear to be strong, but they will never be great lifters. Great lifters have functional strength. The quickest and surest way to develop functional strength is through the Functional Isometric Contraction (F I C) system of training.

A SUPERIOR METHOD OF STRENGTH AND MUSCLE BUILDING

The Functional Isometric Contraction system combined with isometric training with weights is a superior system of strength and muscle building which is the

culmination of many years of effort, many years of scientific study, years of experimentation and practice. It is a superior method of building great strength and unusual muscular development.

The Functional Isometric Contraction system combined with isometric training with weights works on the principle that only through progressive training, with very heavy weight resistance can super strength and the maximum of muscular development be built. There must be a constant effort to work against more and more weight resistance. It is nature's way to meet demands made upon the muscles, so that they will become stronger and more enduring. Only with progressive weight training, can physical progress be measured accurately almost with micrometer-like precision.

With the combined Isometric-Isotonic Training with weights you can continue to train with very heavy weights and heavy weight resistance. In fact, progressively heavier weights and weight resistance can be used day after day. With the usual training system you practice many exercises and perform many of them in sets. This old method is time consuming, tiring and requires a considerable period of recuperation between training sessions. In the past many men failed with these training systems because they trained on their nerve too often and did not give the muscles time to recuperate and rebuild after the day of vigorous training. As only a few supermen have the needed and exceptional endurance and recuperative powers to progress with this type of training, more men fail than succeed. Only a comparatively few men make the gains you read about in the strength books and magazines. On the other hand, many men fail because they do not extend themselves enough, they do not progress beyond many repetitions with light weights and do not make satisfactory gains.

This Functional Isometric Contraction system of training operates on a different system than any other. This system was developed from the newest discoveries concerning cell growth, tissue and muscle building, yet it contains training principles which have actually been secret methods used by some of the world's greatest strong men and world's greatest physical specimens.



Steve Stanko demonstrates the Low Pull (photo at left) and The Middle Pull (photo at right). Both movements are part of the Functional Isometric Contraction System.

The Functional Isometric Contraction system of Super Power Training, is founded on the proven, but little known principle, that a muscle can only grow so fast regardless of how many exercises you practice or how much effort you deliver. To obtain best results it is far better to subject the muscle or muscle group to a single maximum contraction and all around strength will more quickly be attained. Strength will appear in the tendons, the ligaments, the muscles, and even greater strength in the bones.

Only maximum contractions, only the application of great force will develop the strongest muscles. With this system of weight training, wherein the absolute limit of force is applied, only a single contraction is made in each exercise. The Hoffman Isometric-Isotonic Super Power Rack is a combination machine which permits the practice of a great number of exercises and permits a variety of methods of training. But when it is used for pure isometric contraction or isometric contraction with weights, contraction is practiced in each exercise.

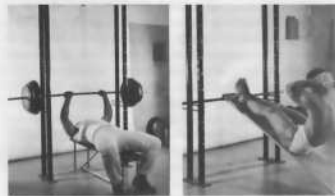
With this method of Functional Isometric Contraction and Isometric Contraction with Weights, the muscles do not tire, although subjected to the limit of force. Rather there is a feeling of exhilaration, of well-being, at the end of the training period. Your muscles start *immediately* to grow in strength and are ready and able to perform even harder work the next day, and the next and greater work as the days pass. With the usual training system much time is lost waiting for the muscles to become rested. A muscle will not increase in size and strength after demands have been made upon it by the ordinary training system until it is thoroughly rested. This may take 24-36 hours of rest between training periods. With the Functional Isometric Contraction and System of Power Training, advanced men (those who have gone through the preliminary training) can work their muscles to the limit of their strength—and beyond—yet the muscles do not become fatigued. *New growth in cells and in muscle tissues takes place at once.* With this Isometric Super Power System, you can train twice as often, six times a week if you wish without tiring. You can make strength and muscle gains two to four times as fast as the usual training system which has been followed in the past.



Steve Stanko demonstrates The Middle Knee Bend (photo at left) and The High Press (Photo at right). These are ideal movements to be used in the Functional Isometric Contraction System.

We recommend that all muscular contraction exercises be practiced over the full range of movement for a reasonable or satisfactory period, a period which is to be determined by your starting condition before you follow the advanced routine of maximum force for single contraction (known as Isometric Contraction). Although the Hoffman Isometric-Isotonic Super Power Rack is primarily designed to build great strength, the maximum of strength, development and athletic ability. It offers advantages to those who are satisfied with only a little physical benefit, for they can make pleasing gains with only a little time and a little effort. Although a weakling, an invalid or a cripple can obtain good physical results with the Hoffman Isometric-Isotonic Super Power Rack, we repeat, it is primarily designed for those who want the limit in strength and development. The training system we are offering is the best, the superior way to build great strength, shapely, strong muscles and unusual physical ability. You get out of isotonic exercise what you put into your training. To obtain the maximum benefits in strength and development, you must constantly endeavor to overcome more and more resistance. This can be done with maximum Functional Isometric Contraction and Isometric Contraction With Weights. Only with weights can you accurately measure the effort you are putting forth. Only with weight can you measure the gains that you have made with Functional Isometric Contraction. Any exercise is better than no exercise, even pushing one hand against another is better than nothing, but if you want the maximum of physical strength, development and physical ability, you must follow the best methods. Experience counts! The combined experience of Olympic coach Bob Hoffman, John Ziegler, M.D., Francis Drury, Ph.D., and Olympic Trainer, Al Roy (a man who has a life time of athletic and training experience), will guarantee your success. For greater success follow their methods to the exclusion of all others.

The Functional Isometric-Isotonic System of Super Power Training requires little energy. It is not tiring, yet it builds super strength and development, strength and size in the muscles, as well as strength in the tendons and ligaments. Although Functional Isometric Contraction



Bill March demonstrates The Bench Press, Muscular Contraction With Limited Movement (at the left). On the right he demonstrates the Abdominal Raise

tion, Isometric Contraction With Weights and Muscular Contraction With Movement, Super Power Rack Training are worthy ways to strength super health and development in themselves, they succeed more rapidly and much more fully, when they are combined with a complete weight training program. Functional Isometric Contraction is a time saver. On some days as few as five exercises, 12 seconds each, are performed. Most weight lifters and body builders train three times a week, rest days between. As Functional Isometric Contraction and Isometric Contraction with weights, Super Power Rack Training, make such moderate demands upon the body, yet bring such sensational results, they can be practiced on what would normally be rest days. With this method of training, you train twice as many times, although the Functional Isometric Contraction and Isometric Training with weights are easy training days. It would be reasonable to believe, if you train twice as much that you would gain twice as fast. With this new system, actually many gain not only two times as fast, but three or four times as fast. 5% a week is the average gain for beginners, twice as much strength in twenty weeks. Naturally an advanced man can not double his strength in twenty weeks, but he can and will show sensational gains.

With ordinary training methods there are two good reasons why some succeed and others fail. Those who succeed have the right combination of the right system of training, they follow the rules of healthful living. Those who fail, most often do not have the right system of training. They usually exercise some of the muscle groups too much, neglect others. They may train too little, use too little weight resistance, or they miss training periods for every possible excuse. "It is too late, it is too hot, I am tired, I will train tomorrow, I want to go out tonight"; these are only a few of the common excuses. Actually laziness is at the root of all the excuses.

Then there are some who are so ambitious that they train too hard and too often. Perhaps their bodies do not have enough natural recuperative power. They extend themselves to their limit too often. They work too much on their nerves and of course, there are those who have poor living habits, such as irregular sleep, and the failure to maintain a tranquil mind. So many people do not supply their bodies with the proper food. Not enough food for energy, not enough protein to build the body. The body is built only when there is a surplus of the right kind of protein. Protein will be used first for maintenance and repair, even for energy, if there is not enough of energy producing materials. No muscular growth is possible unless there is an ample supply of complete protein. Some people smoke too much, drink too much of alcoholic beverages, some drink too much of tea, coffee and soft drinks which are loaded with white sugar. They eat too much of foodless foods such as white flour and white sugar products. Good, natural foods are best for building strength and muscular development.

Isometric and Isotonic Power Rack training can not

overcome these poor living habits, these omissions and commissions. It will help you in spite of bad habits, but you will succeed much faster and succeed better if you follow the rules of healthful living as closely as possible. One of our rules of successful training, and body building is, never miss an exercise period. It is so easy to miss again when you have missed once. It becomes a habit of missing, and failure is sure to result. With the Functional Isometric Contraction and Isometric Training With Weights System of Super Power Training you need not miss your training. You can train at any time even at odd moments. With the Isometric System, you have no excuse not to train. Your Super Power Rack is right in your home. You can train at any time you wish with little expenditure of energy. Being tired, or being late, or having little time is no excuse, it takes so little time.

This system of training will be a boon to the average family. The Super Power Rack can be used by the children, by Father and Mother, by the old folks, by the neighbors. It is excellent for people of all types. It is a big step forward in building a stronger and healthier America, because here we have a simple, easy-to-follow, result producing system which brings sensational results with a minimum of effort. There is no valid excuse in the future to be out of shape, to be fat, to be peplus, to be sick, when it is so easy to keep superlatively fit, strong and super healthy.

There should be an Isometric-Isotonic Super Power Rack in every home, to be used by every member of the family as well as relatives and friends.

TRUE FACTS ABOUT FUNCTIONAL ISOMETRIC CONTRACTION TRAINING

The limit of maximum effort is set by many inhibits or restraints within the body. This is nature's way of preventing injury to the body. Many lifters have the muscular strength to lift much more than they have ever lifted but they have inhibitions within themselves that prevent them from making a maximum effort.

All of us are familiar with unusual feats of strength or speed performed under stress conditions, such as the boy who ran and leaped over a high fence when a bull was chasing him, which he was never able to jump there after. Or the strength a drowning man displays; or the case of the apparently frail mother who lifted a heavy car off her child. She injured her back in the process, which well illustrates nature's need for restraints within the body. Some of this sudden strength is due to the increase of adrenalin in the system induced by the excitement, the fear, the necessity. But, most of it was due to the removal of mental inhibitions to maximum effort. By using the Functional Isometric Contraction system, these inhibitions can be quickly reduced, enabling you to use more of the strength you already have . . . the strength that is already within your body.

How can Functional Isometric Contraction remove these inhibitions? It removes inhibitions by allowing the lifter to exert maximum force in the various lifting positions, for a period of approximately 8 to 12 seconds. By doing this the lifter will get the feel of maximum

strain in these positions without the fear of injury. Fear of injury is prevented by a gradual contraction, rather than the sudden maximum contraction that is used in the old method of training. After the lifter has trained by the Functional Isometric Contraction system and gets the feel of the amount of force that he can exert with his muscles in the various lifting positions, he will unconsciously remove many of the mental inhibitions to maximum effort.



Dr. Drury determining Louis Riecke's progress by a measuring device in regular use at L.S.U. (Louisiana State University).

5% GAIN PER WEEK 100% GAIN IN 20 WEEKS

The average man can increase his functional strength 100% in a 20 week period by using the Functional Isometric Contraction system of training. Dr. Mueller has proven this with his research in Germany and Dr. Barham has reaffirmed this theory with his research at Louisiana State University. Both of these men constructed special measuring devices so that they could keep accurate measurements of the development of strength in the men who were the subjects of their experiments. A photo of one of these special devices is shown on this page. The instrument can accurately measure the amount of force exerted by the subject in a lifting position. Over 175 men took part in this experiment and the average gain in strength per week was 5%. These studies conclusively prove that one hard contraction per day would develop maximum strength.

Experienced lifters cannot expect to continue to gain at the rate of 5% per week. Paul Anderson, who can press over 400 pounds, could not expect to press 800

in twenty weeks, but any man can expect to gain much more than they ever thought possible. Louis Riecke gained 65 pounds in his press in four months and he was considered to be a good lifter when he started using Functional Isometric Contraction. He had repeatedly won the Southern Championship, had won the Junior National Championships, the National YMCA championship and many open meets. A beginning lifter who could press 100 pounds, is one who would have a good chance to double his strength in 20 weeks, pressing 200 pounds. The inclusion of Functional Isometric Contraction in his training changed Louie Riecke from a good lifter to one of the world's greatest. Even the already great lifters can expect a steady increase in their lifting ability if they use this Functional Isometric Contraction system of training.

INDIVIDUAL DIFFERENCES

The Functional Isometric Contraction System of training is a guide for the average lifter. All lifters do not develop in exactly the same way. There are individual differences in the development of functional strength in lifters. The basic principle of positive Isometric Contraction is usable and functional for all lifters, but some small adjustment in the positions of contraction and the number of positions to be used must be made by some lifters.

Although there is a great deal of individual difference between lifters, there are many more similarities among lifters than there are differences. One of the common faults of those who make adjustments in the Functional Isometric system is to include too many contracting positions. This causes overwork. Remember—stimulate the muscles for development, but don't approach complete fatigue.

DON'T OVERWORK

Most lifters work too hard. They fatigue themselves beyond recovery between workouts. All of their energy is used in recovering from their workout, rather than developing more strength. Stimulate your muscles for development but don't approach complete fatigue. These facts are the reason we have repeatedly offered the advice to not work on your nerve too often. Yet if you don't make a maximum effort at times, make maximum demands, you can not expect to gain in strength and muscle as you desire. That is why we say that you have to be your own trainer, we can tell you what to do, offer advice and instruction, but only you know how you feel, only you know how much you can stand of hard training without retarding your overall progress.

The chief advantage of Functional Isometric Contraction is that it does not make you tired. Instead of waiting a full day before you can exercise again, you can exercise the following day and continue training *day after day*. In fact Functional Isometric Contraction can be practiced on the days between your regular workouts, be they weight lifting workouts or body building workouts. With this system, you should at

least double your progress. You must remember, however, that you can do too much of Isometric Contraction training. It seems so easy, it does not tire you, that you feel like going on and on, performing exercise after exercise, trying to speed your progress at a still greater rate. So if you do not find yourself continuing to gain as rapidly as you at first did, or as rapidly as you expect, take stock of yourself. Perhaps you have been working too hard in your enthusiasm. Take things a bit easier for a time. Perform less exercises on your regular weight training days. Be sure that you do not have more than one limit or really hard day a week. Use the Medium, Light and Heavy System.

All research seems to prove that one hard contraction a day is enough stimulus to develop the muscle to its maximum. Any work beyond this tends to hinder development rather than help development.

Other research experts in this area, such as the late Dr. C. H. McCloy, of the State University of Iowa, believed that one maximum contraction would produce better development than numerous partial contractions. Dr. John Ziegler of Olney, Md., who has perhaps worked longer and done more research than any other, Dr. Drury of LSU, Bob Hoffman, Alvin Roy and Louie Riecke all agree that one maximum effort, one maximum contraction in each position is the best way.

One of the hardest theories of Functional Isometric Contraction for most lifters to accept is that the principle of one contraction per day in each position is enough of a workout. Most lifters, after they train with the Functional Isometric Contraction system for a few weeks and begin to feel their new power, become so anxious for more power that they will increase their workouts. The only way, to increase the workout should be to develop the ability to put forth more effort in each contractional position. Progress is measured in direct proportion to the lifters ability to put forth a supreme effort in each of the exercises.

Many lifters who increase their workouts (that is increase the number of movements) after three or four weeks of Functional Isometric Contraction training find that they have stopped gaining in Functional Strength. That is the time to reduce the program, as far as number of movements are concerned. Don't decrease the supreme effort in each exercise. Instead of doing the three three's at this point, you may have to reduce the number of exercises to two of each. But be sure that you use a system of rotation, practicing a different two on each training day, as it is not wise to omit one of the worthy three times three permanently.

So DON'T OVERWORK. Follow the principle of work set up in the Functional Isometric Contraction System of Training.

FATIGUE

Nature's way of developing strength in animals is to have the animal stretch hard and hold this position for a few seconds. Watch your dog or cat. Several times during the day it will stretch and make itself as long as possible.

This develops it's extensor muscles. Then at another time, the dog or cat will hump up it's back and hold this position for several seconds. This develops it's flexor muscles. You will never see an animal go through a long drawn out training period.

The next time you have an opportunity, look at the animals in the zoo, the animals of the cat tribe. They pace back and forth. They occasionally jump up on the little platform in their cages, and they stretch. That is all they do to remain in magnificent physical condition. Even animals born in captivity, who have never been out of their cages, are in wonderful physical condition. This well illustrates that it does not take too much to just keep in condition.

This exercise, the Cat Stretch, is one of the six exercises in the world famous Bob Hoffman Daily Dozen. It is the world's oldest human exercise and has been practiced for thousands of years in the Orient.

Nature's way of developing strength is to stimulate the muscles and the nervous system by a hard contraction for a short period of time. Complete fatigue hinders development rather than aiding development. One of the basic scientific principles upon which Functional Isometric Contraction is based is maximum stimulation of the muscular and nervous system, without causing complete fatigue.

LITTLE UNDERSTOOD

The chief retarding factor in the acceptance of this principle of strength building was the fact that the researchers who started their experiments at least as early as 1924, did not make their demonstrations with any real exercises. In 1928, seven physical education teachers conducted Isometric-Isotonic tests at Springfield College, and the results were so meagre or so inconclusive that years passed before more was done with these principles. In 1953, Mueller of Germany started his researches. Dr. Ziegler and Bob Hoffman heard of these experiments while in Vienna, learned as much as possible about the experiments, but once again interest lagged because the tests were conducted with almost nonsensical exercises. Pressing with the little finger, twisting with the hands, tensing the arms by spreading the fingers. Much misinformation was offered. They said that the exercise of spreading the fingers and tensing the arms would double the strength in not 20 weeks, but twenty days. We tried many of these tensing exercises and could not determine a noticeable difference.

We had much correspondence with Dr. McCloy, we talked to Dr. Steinhilber at the Olympic games, but it was not until Dr. John Ziegler placed the Isometric system in real action that progress was made. Louis Riecke, as we have been constantly reiterating, was the Functional Isometric Demonstrator, Bill March the Isometric Contraction With Weights Demonstrator. Both received sensational results. Prior to this time, very little work had been done with these principles with real exercise. There were some experiments with large groups performing a single exercise such as the dead lift, but never before had two competitive weight

lifters followed a definite training system with Functional Isometric Contraction. Only we have planned, and demonstrated the value of the Isometric-Isotonic Power Rack principles in real exercise such as weight lifting, body building and athletics. Our problem now is to make full use of these wonderful principles of training, this great method of body building, and do all we can to improve our weight lifting, to improve in all forms of athletics, to build a stronger and healthier America. This principle of training can be used on ships at sea,

on submarines, in restricted quarters among our service men in isolated parts of the world. It can be used to train large numbers of recruits, as Captain George Ottot of the United States Marines is doing at Camp Pendleton, Calif. It's possibilities are overwhelmingly great. Let's make full use of this gift from heaven. See that your friends, the man who works next to you, your neighbor, your club members, all of your friends have a book such as this and obtain the required equipment to train Isometrically to the fullest measure.

Bill March snatching 295, as he won the national Y.M.C.A. championship.



Bill March cleaning and jerking 365 pounds, a national Y.M.C.A. record.

Bill March was the subject of the first successful experiment with Functional Isometric Contraction with Weights, applied to heavy training

On one of his trips to York, Dr. Ziegler, in talking to John Grimek and Bob Hoffman, said that he would like to have a young weight lifter to serve as a guinea pig with a new system of training he had in mind. Although the name was not generally known at this time, April 1960, it was a system which has become known as Isometric Contraction With Weights. He intended to combine this training, with a complete nutritional program, including copious quantities of Hi-Protein and Energel, Vitamins, particularly Liver-Iron and Vitamin B-12 tablets. He intended to practice positive thinking with this program which verged on hypnotism.

Almost in the same breath, John Grimek and the author of this course suggested Bill March. At that time he weighed 176 pounds and had just won the Middle Atlantic championship with a total of 745. "Will he follow instructions," Doc Ziegler asked? We thought he would, and we called Bill in to talk with him. Bill was quite willing to follow the program, for he was ambitious to become a better lifter. In fact, deep in his mind (although the time was short) he had a wild hope that he might make the Olympic team. Far from easy with Jim George and perhaps Tommy Kono in the 181 pound class, and Clyde Emerick and John Pulakamp in the 198 pound class.

The training would necessitate two or three trips a week to Dr. Ziegler's establishment at Olney. Doc said it would be better if he would stay down there and come back on week ends. This was not a good schedule for a newly married man, so Bill drove back and forth, 180 miles round trip. The program started to work immediately. Bill won the National Y.M.C.A. championship with a total of 800. Nice gaining, but 25 pounds less than the national championship qualifying total of 825. So instead of qualifying for the Olympic team, he could not even qualify for the trials. But he continued

to follow the new combination training program and he was coming up fast. So fast, that the first Sunday the Olympic team was in York, and we went down to Baltimore to give an exhibition at the Maryland State prison, Bill lifted well, his total included a 340 clean and jerk, which he jerked 4 times. He was getting strong. On Friday he made a real good try for the Olympic team, in the final tryouts, totalling 925, which included a 360 clean and jerk. The 340, five days before had been a lifetime record, so this represented a gain of 20 pounds in the clean and jerk within one week. Bill said in disappointment, "this is the last time I am going to stay home, I will make the team the next time."

The team went to Rome, Bill stayed home. He lost considerable interest and even that fall he was not doing too well. He had discontinued travelling 180 miles to Doc Ziegler's office. It was a long, monotonous trip, zig zagging through all types of roads from York to Olney. And Doc was so deep in other research work and his general practice, that he was not urging Bill March to continue with the experiment.

All our immediate weight lifting group, which included all the lifters from the East, were overwhelmed at the progress Bill had made. Everyone wanted to know how he did it. We had to keep this training secret, for it was a new principle and we did not want others, particularly the Russians, to learn about it until we had gathered all the facts, performed all the necessary experiments.

Louis Riecke, an intelligent young man from New Orleans had been selected as a member of the Olympic weight lifting clinic in York, so he was one who was amazed at the rapid progress made by Bill. At this period Dr. Ziegler was spending a few days in York, living at the Yorktowne hotel with the team, (as he always says, when he tells this story, at the expense of

the York Barbell Company—not unusual for he is our team physician, and this is a very important part of our weight lifting work) and Louis Riecke had occasion to consult him about a very personal matter. Dr. Ziegler in talking about the experience said that “it was one of those lucky breaks of fate.” Louis had purchased some new clothes which had produced an acute allergic reaction, manifested by a rash around his waist. While Doc was treating this condition, Louis had a good opportunity to talk to him about Bill March’s special training, which was still being kept secret at that time. As Doc said just yesterday, “this medical medium brought two men together so that a bond of friendship and mutual cooperation was formed.” Doc was impressed with Louis, his personality, his intelligence, and the fact that he had had some medical training. When Louis stated that he would like to try this new system of training Doc was willing. But he said, he was tied up temporarily with pressing responsibilities, including some of his professional duties, so experimental work was not possible at that time. Riecke said, “when you are ready, call on me, I will be ready too, just let me know.”

Early in November of 1960, when the Olympics were history, Doc invited Louis to come up for a conference. It’s a long way from New Orleans to York, and just about as far to Olney. It costs money to travel, but Louis was so interested he came. There were conferences that very week end. It was decided that Louis Riecke would practice this new form of training, but in a different way. We had said that Bill March had been using what had come to be known as Isometric Contraction with weights. Training progressively with weights and the Isometric-Iso tonic Super Power Rack, pushing and pulling the weights against a solid pin. It was planned that Louis would perform these exercises pulling and pushing against an immovable object. He was sworn to secrecy, such secrecy that he would not tell anyone outside of his own family what he was doing. I saw Dr. Drury at a convention and he told me that Riecke was training behind locked doors, and he would not let anyone see what he was doing. But Doc said that he knew he was practicing a form of Isometric Contraction. With each passing contest Riecke performed better and people started to marvel at his physical development. People started flying up to York to ask us what Riecke was doing and to try to find what March was doing. Some of them went down to see Dr. Ziegler. It was not until after the national championships when Louis Riecke did well, not quite his best, but still good enough to give Tommy Kono, the world’s greatest weight lifter, the battle of his life, that he disclosed his training method. Both lifters tied after two lifts with 600 pounds, total, both tie with 965, and then Tommy managed 980, while Riecke missed his last lift.

The exact Functional Isometric Contraction System that Louis Riecke followed is offered in this course, as well as the Isometric Contraction System with weights which was used by Bill March.

A lot of study, research and experimentation went into the great successes of Bill March and Louis Riecke. Weight lifting history was made. As I wrote elsewhere, what these young men did was truly a journey into the unknown just as the trips of the American astronaut, Sheppard and the Russian, Gagarin, were trips into the unknown. They risked their weight lifting futures by testing this new training method. But fortunately it turned out well. Louis Riecke, a good lifter, but not an international lifter, a man who had won the southern championship repeatedly with lifts such as 200 press, 220 snatch, 280 clean and jerk, total 700, finally made an official total with 303-303-367-974 counting the fractions. He had snatched 305, a bit higher than Dave Sheppard’s American record of 304½, higher than Jim Georges’ former world record, of 303½, which remained the record for nearly four years. The record has moved up to 310 by Plugfelder of Russia, but Riecke had 314½ to arms length in the contest in Moscow, and he will bring this record back to America one of these days.

In our enthusiasm about Louis Riecke, we forgot Bill March for the moment. Bill was just plugging along, getting nowhere. In five consecutive contests he had totalled 880. Good lifting, but far from the 1000 needed to amount to much in the 198 pound class. He would make a first attempt success with 340 clean and jerk, but he could not even clean 350.

At this time I had built the Isometric-Iso tonic Super Power Rack. I had the first one in my own home gym. Bill trained here for a time. He also made trips to Dr. Ziegler’s establishment at Olney, Md., to train with his Super Power Rack. Finally we put another Super Power Rack in the little gym at the Strength and Health Center, where Bill could train conveniently.

Bill renewed this form of training for he was hearing about Louis’s sensational progress. Bill had shown the way to Louis. In turn, Louis was showing the way to Bill. Bill March started his Isometric Training with weights late in March. In two weeks, lifting at Schenectady, New York, he totalled 915, one week later at Morris Weissbrodt’s big open contest in New York, he totalled 930, a new life time total, and won the best lifter award. One week later, we drove to Toledo, Ohio, and there he won the national Y.M.C.A. championship with a total of 950, setting four new national Y.M.C.A. records. A week later he won the Middle Atlantic championships, surprised a lot of people by winning the physique title, Mr. Middle Atlantic, with no special body building training—only weight lifting. Another week later he won the Pennsylvania State Lifting Championship, and also the title Mr. Pennsylvania. He beat a lot of good men in this contest. Almost on successive Saturdays he won the Junior National Championship, setting four new national records. And, then, he culminated his training by winning the Senior National A.A.U. 198 pound championship. He was selected as a member of the team which lifted against the Russians in Moscow, Leningrad, Kiev, Bilibi and later in London. He realized a life time ambition, he increased his total to 985, and he will continue to improve.

We know a lot about this form of training I don't believe that we are immodest when we say that we know more about this form of training applied to heavy athletics, than anyone else in the world. And we are working hard in every way to make the most of it for American Athletics. The years of experience, research the general know how, and a lot of hard work, and much travelling and consultations has brought us to our present position of training knowledge. And I can assure you that every effort of the Bob Hoffman Foundation, which is devoted to Building a Stronger and Healthier America, the efforts of myself and my associates will continue to be devoted to doing more with this wonderful training system, this breakthrough into a realm of little known training principles, of sensational physical improvement, a system which will not only produce better weight lifters, better athletes, better men in the armed forces but can help every man, woman and child in the nation.

My associates, Dr. Ziegler, Dr. Drury, Al Roy, and the athletes who proved the superiority of this form of training with their own bodies, Louis Riecke and Bill March have delegated to me the task of coordinating the great mass of material which has gone before, the considerable amount of research work, the jig saw puzzle of making the most of our experience and the results of our experiments and research.

I have made good progress on the task that has been set before me. I have this course finally ready for the world, 25,000 words of concentrated information and instruction. Charts showing how the exercises are performed, I have been working hard on a book, to cover the subject even more completely. I have it written but there will be changes, just as I have written this article over and over, this being the third time. Unusual for me. But we are moving fast with this system of training and new facts had to be put in this course.

The most difficult part of the work is done. But there is a lot of detail work. For instance, almost immediately we will issue a course of training for football, containing a host of illustrations and probably at least 30,000 words. It in turn will be followed by a Course for basketball, and it by one or more courses on track and field. I have my work cut out for me.

As you see, the Isometric-Isotonic Super Power Rack, is a wonderful piece of equipment, a full gymnasium in itself. We have the less expensive, wooden rack for those who are satisfied with that type of rack, cannot or don't wish to afford the Super Power Rack, for Isometric Isotonic training.

We have no time to lose in teaching this wonderful system of training. All of us are talking like mad, at meetings of civic clubs, at football clinics at physical fitness meetings. Washington is pretty excited about what we have. Recently we went down to the White House, missed the president but had lunch in the White House, and great things are planned. The President's Council of Youth Fitness is well aware of what this system can do for our country. Dean Markham, who is the Administrator of that program, spent a night at our



Above, Bill March training with the Hoffman Isometric-Isotonic, Super Power Rack, Isometric Contraction With Weights. Illustrating the Low Pull, the bar will be pulled against the top pins and held for 9 to 12 seconds.

Below, Bill March performing a Jefferson lift with 400 pounds. Isometric Contraction with weights. Note that the bar is pulled up to the pins which are set two notches above the starting position.



home, and at 4 o'clock in the morning, he and I were training with the Super Power Rack.

It is our problem to get this wonderful training system as quickly as possible into every Y.M.C.A., every school, every college, every gymnasium, for all groups who are seeking strength, super health and development. We have some television shows and talks scheduled. We are trying to tell of the value of this system of training—what it can mean to America. We need all of you who read this to help us spread the use of this remarkable system of training. Learn all about it. I can assure you, that it is of sufficient importance that you should come here no matter where you live.

THE MEASUREMENT OF PROGRESS WITH THE USE OF BARBELLS

The strongest motivator for continuing the Functional Isometric Contraction system of strength building is the periodic lifting of weights. Because of the nature of Functional Isometric Contraction, the lifter can not objectively measure the results of each workout. This to many people is a mental block for continuing the workout. All Functional Isometric Contraction trainees should measure their progress regularly with a barbell. This should be done at least once every week. The lifter should keep a record of his maximum lifts.

The Functional Isometric Contraction System of Training should include the use of weight training and weight lifting for there is no other equally suitable method of measuring the newly developed muscular power of those who practice the Functional Isometric Contraction way. Before the Functional Isometric System was devised, a good workout usually consisted of 2½ to 3 hours of hard training, particularly if the trainee aspired to be a great lifter or a renowned physique star. This period of intensive work was usually followed by a period of fatigue and soreness. Three or four workouts a week were always recommended for the old method of strength and muscle building. This eliminated many people who would have liked to have strong bodies for they were unable to give ten hours or more a week to exercise. Now in ten minutes a day, and without undue fatigue and soreness, an individual can develop his maximum strength. The measurement of progress by regular use of barbells is essential to the continued success of the Functional Isometric Contraction System of strength and muscle building. The use of barbells fills in the gaps between the force applications of the Isometric System. It ties the new found strength spots together, teaches muscles to work in the desired channels, coordinates and hastens the strength and body building progress.

If you train with Isometric Contraction With Weights you can easily determine your progress. If you train with the Functional Isometric Contraction system your progress may seem to be less than you expect, you may even become discouraged simply because you cannot measure your progress, cannot determine if you are

making satisfactory progress.

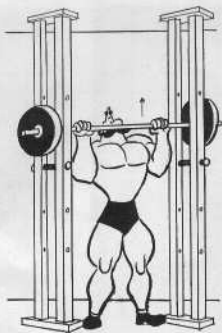
Many trainees will put forth a slight, half hearted effort in the various movements and expect great things. They will be disappointed, for while the exercises practiced should be few, the effort expended must be with great force. You would be surprised in seeing a group of college or high school football players, a group of weight lifters or body builders, training with the Functional Isometric Contraction System. The effort which they expend is terrific! Corded muscles leap from unexpected places. We must remember that Riecke with his Isometric, and March with his Isometric Training With Weights, were both weight lifters, both lifted weights moderately in the middle of the week, and with all their might, making a lifting total or taking part in a contest on Saturday. Without these special training days, and other methods of training as we have outlined in other parts of this book, they would not have been able to make such exceptional progress. So you must use weights often to assure your progress and to measure your progress. This does not mean that you will make no progress without weights, it simply means that you will be working in the dark, will not make maximum progress without weights.

THE HOFFMAN ISOMETRIC-ISOTONIC SUPER POWER RACK

For the more than thirty years of Strength and Health Magazine's existence, we have been writing about power training and power racks. We have shown diagrams and offered descriptions as to methods of construction. All sorts of racks have been constructed in many parts of the country and the world. In Strength and Health, we showed the fabulous comic strip character, Bosco's secret training rack which produced for him the miraculous strength with which he regularly proved that he was the strongest man in the world, even stronger than Paul Anderson, for Paul Anderson officially cleaned and jerked 440 pounds, while Bosco does over 1000. The exact description of Bosco's rack was shown in Strength and Health, made with 4 by 4's and heavy pins. It was strong enough for even Bosco.

On page 34, in the Guide to Weight Lifting Competition, written first in 1939, I wrote, "You can support weights with two pairs of 2 inch pipes or 2 x 4's extended from floor to ceiling. The bar will slide up, between these two, two inch pipes or 2 x 4's, and can be held in place with bolts, thrust through holes, two inches apart, bored in the pipe or boards. This type of exercise is very important, it is often the difference between championships won and championships lost."

I have seen a lot of training racks in my travels. Everywhere I go, people tell me of the training racks they are using. Some of these racks have merit, but most of them are very crude in construction, and have only a few adjustments. For a great many years, in the York Barbell Gym, we have had a number of power racks, which have been used by the myriad of great champions who have trained here. Thirty years ago,



Bosco's Training with his Super Power Rack, which helped him become the strongest man in the world. This illustration appeared in *Strength and Health Magazine* nearly ten years ago.

when I was proving that I was entitled to the title, "World's Worst Presser," I could press only 145, but I learned to clean and jerk 295. To my knowledge, I am the only man who could clean and jerk double what he could press, but with the power rack we had then, I learned to Continental and Jerk behind neck, 325 pounds, to gain entrance into the famous 300 pound club. Training with the rack, I finally learned to press correctly, over 200 pounds, so was not quite the world's worst.

Many visitors to our gym have seen the power rack which looks like a pair of steel steps, which has been used by so many of our champions. The weights can be pulled from the lower steps, pushed from the higher ones, it is a squat stand, as well as a press stand, a high pull up stand. It served its purpose well, in fact I believe that this rack had more to do with developing Chuck Vinci's strength than any other training medium—strength which enabled him to win two Olympic titles, and set world record after world record.

Even now, Johnny Terpak, when he is in a hurry and the newer power racks are too busy, performs his exercises on this step-like rack. Its adjustment is only about five inches at each height, not close enough for a man who wants to gain Super Strength, unusual muscular development and weight lifting ability.

After a great deal of thought, taking advantage of my many years of experience with power racks, I built the present (patent applied for) Hoffman Isotonic-Isometric Super Power Rack. I have given many hours of thought and training to it. Since we are using it, we have designed and built other racks, but we still believe

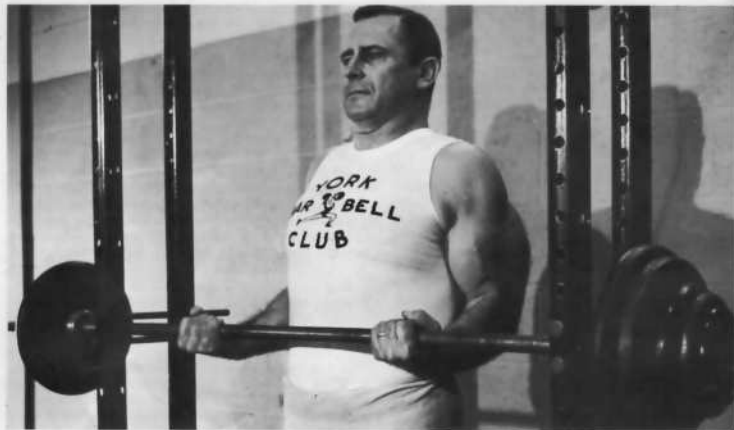
that this rack is the best all around rack that can be built. We have gone ahead with the jigs, and fixtures, so that we can produce these racks in quantity.

Anyone can build a rack, in fact we will tell them how to build one, and we hope they will, if they can not afford a well made, professional type of rack. We manufacture these racks not to make money, but to encourage this type of training, being promoted by the Bob Hoffman Foundation. We are dedicated to the building of a stronger and healthier America, better athletes and better weight lifters. The Bob Hoffman Foundation is a non-profit organization, and if any profits above current expenses are made, it will be used for scholarships for athletes, particularly weight lifters, which is the game nearest our hearts, and for the promotion of all activities which help to build that stronger and healthier America.

The Hoffman Isometric-Isotonic Super Power Rack is a fine piece of equipment which is strong and safe, strong enough to support the thousand pounds or more that our best lifters regularly use. It presents a good enough appearance that it will look well in the best gymnasium or the finest home. This machine is safe as a Leg Press Machine, permits the handling of very heavy poundages in the straddle or Jefferson lift. More than a thousand pounds can be used with the rack in this way. It is actually a complete gymnasium in itself. Besides being an Isotonic-Isometric Rack, it serves as a chinning bar, a squat rack, a leg press machine, a press bench, a Straddle lift Rack, a Pressing Rack, and with a board which you can make yourself or get direct from our Foundation headquarters, it serves as an adjustable abdominal board an adjustable inclined bench. It can be used with parallel bar attachments or an overhead pulley. Truly it is a super rack. Hundreds of interesting and result producing exercises can be performed with it.

The Hoffman Isometric-Isotonic Super Power Rack, includes four heavy duty steel pipes, $2\frac{1}{2}$ inches in outside diameter. These are welded top and bottom to steel plates to strengthen the apparatus and to fasten it to floor and wall. It is a real job making such a rack. The uprights are eight feet in height, and a hole has been drilled every two inches. That is, 48 holes in the front of the steel pipe, 48 holes in the back of each pipe, 96 holes in each pipe, 4 pipes, 384 holes. The steel is tough, and sometimes the drill has to be sharpened every few holes, there are 64, $1\frac{1}{8}$ inch holes in each of the front pipes, this is 128 more holes, or 512 in all, then there are five holes in each of the four flanges, 20 more, and the cross pieces, and the rods which hold this super power rack firmly to the wall, so there are over 550 holes bored in this tough steel. Although that is the hardest part of making the Hoffman Isotonic-Isometric Super Power Rack, it is only the beginning.

There are six heavy duty steel pins. It is a nice rack, built to last for many years. It's a job of considerable magnitude to make one of these Hoffman Isometric-Isotonic Super Power Racks, but it is the best way, so that is the way we are making them. We have used all sorts of clamps, all sorts of appliances, but we have come back to the Super Power rack as we are making it.



Is this the biggest arm in the world? Steve Stanko in a few weeks of Hoffman Isometric-Isotonic Super Power Rack Training gained ten pounds after his bodyweight had remained static for a number

of years. Looks like a good share of the ten pounds was gained in the arm.

It takes a machinist of considerable skill, a fine machine shop, to make one of these racks.

With the more than 500 holes in the steel uprights, there is an adjustment every two inches. Some users employ a one inch platform in some of the exercises, so this gives an even finer range of adjustment. One of the rules of successful strength and muscle building has always been to avoid working the muscles in the same groove always. The greatest strength, and the finest muscular development has resulted from the practice of "the thousand exercises," the great variety of movements our men have practiced which have made them the world's strongest, the best built, the best lifters.

If you are to build your own rack, you will need four 2 x 4's or 4 x 4's. As you will not have the larger openings to fit the bar for the Pure Isometric Contraction method of training, you will only have to drill holes in these uprights every two inches. Thus you will only need to drill 192 holes, and as they are drilled in wood it is much easier. You will need a piece of steel to hold the uprights to the floor, and you will need a piece of 2 x 4, four feet long to hold the uprights in position and more lumber to fasten it to the wall. You will also need four to six pins to support the bar, so that you can train with it Isometrically or with weights.

A rack made with 2 x 4's will serve for ordinary usage. One with 4 by 4's will permit the use of very heavy weights. We believe with this description and the pictures shown, you can build your own rack if you wish.

Building your own rack will take a number of trips to the lumber yard, to the hardware, even to the blacksmith or a machine shop, to have your supporting pins made. Your rack will need painting and laying out and the drilling of a myriad of holes takes some mechanical skill and equipment. But if you have plenty of time and can do the work yourself, you can save shipping charges in building your own rack just as you could save money making your own bar bell of concrete. But in either event, you would not have as fine a piece of training equipment as you would have if you purchase a well designed, professionally made rack. For the benefit of those who cannot or do not wish to afford the Isometric-Isotonic Super Power Racks, we have made a far less expensive rack, with 2 x 4's. Write for costs.

With the Hoffman Isometric-Isotonic Super Power Rack, the machine can be used for a multitude of purposes. Of course, it is primarily an Isometric-Isotonic Super Power Rack. With the short bar overhead, in the Isometric holes, you have a chinning bar, which permits the Frog-type of kick, the pull up or the straight leg raise. From this bar you do the hanging exercise with your hands or with straps and your legs, both of which are excellent for realigning the spine and improving your posture, perhaps most important of all, strengthening and slenderizing your entire mid section.

With a box, low bench, or preferably, the special attachment, the board which serves as a low bench, a press bench, an inclined bench, an inclined abdominal



Olympic Coach Bob Hoffman, the author of this course. Photo was taken in far off India, when he visited there with the American weight lifting team. Bob Hoffman was 57 that year.

board, you can use the Super Power Rack in a variety of ways. Without the rack few men can practice heavy leg presses or heavy Jefferson lifts because they can not get the heavy weights in the proper position. With the wooden rack, to practice Isometrically, pins are placed above as well as below the bar. With the Super Power Rack, there are close fitting holes to fit the bar, on the front standards of the rack, for isometric training, which are a pleasure to use. Also the supporting bolts are made long enough, that you can load the bar on the front of the rack, for deep knee bending, squatting, or other exercises in which you prefer to be away from the supporting uprights.

Such a rack will provide interest, super health, super strength, with this new, result producing system of training. It will open up an entire new physical training world for you.

TRAINING WITH THE ISOMETRIC-ISOTONIC SUPER POWER RACK

If you are a beginner, or even a little out of condition, you will be wise to practice full range repetitions before you exercise with a single maximum effort either Isometrically with completely static resistance or Isometrically with weights.

Consider the press. There are three pressing positions and movements. From a position at the chest to eye level, from eye level to a position six to eight inches above the head, from a position about six inches below

extended arms, to extended arms. You can go through the movements of exercise No. 2, from chest to eye level, for six movements, hold at chin level the last one for six seconds. You can do this because you are not starting with very heavy weights. Exercise with weights that you can comfortably handle for the recommended six repetitions. Perform Exercise No. 3 with 6 movements holding for six seconds at top of head in a similar manner. And Exercise No. 4 with six movements and hold for six seconds about three inches below the arms extended position.

When you are a beginner, or at least partially out of condition, use a similar procedure in the three pulls and the three bends. The first pull is performed from below knee level, to a back straight, legs straight, arms straight, flat footed position. The hold position for 6 seconds, is the starting position around knee level. For the second pull, pull with arms slightly bent, raised on toes as far as possible, shoulders raised, chest raised, entire body leaning back slightly, the head leaning back. For the third, or high pull position, pull from the high position of the second pull, until the bar is about three inches below chin level. On the 6th repetition, this is the holding position for six seconds.

The first of the three bends is from the lowest possible squat to parallel. After six repetitions, the holding spot is just about an inch above the lowest position. The second position, starts with parallel and about half way up to the legs extended position. After six movements hold for six seconds at a position intermediate between the parallel and the top position of this movement. For the quarter bend position, make six movements from the quarter leg bend position to straight legs. In holding for 6 seconds, after 6 repetitions, hold the legs at about a one-eighth bend position.

You will be wise at times to go through the entire range of movement, from shoulder to arms length in the press. Practice 6 repetitions, holding the last movement about three inches below the extended arms or top position. Perform the pull from the position near the knees, a little below or above the knees to the full high position, after six repetitions, hold the weight in the top position of the middle pull.

In the deep knee bend perform six repetitions from the lowest possible position to the legs fully extended position. After the 6 repetitions, hold for 6 seconds in the half way position.

The "hold for six seconds" will add benefit to the movement, but it is primarily designed so that you can become accustomed to the single maximum effort of the Isometric movements.

We believe that practice with the full range of movements should be included in the training program. Weight lifters practice lifting at least once a week, preferably twice. This operates the muscles from the extreme of contraction to the extreme of extension. Be sure to include twice a week training with full movements if you are not a weight lifter, who performs full movements in practicing the lifts.

ISOMETRIC TRAINING IS A TIME SAVER SPEEDS YOUR PROGRESS

For lifters whose form is not good, I would suggest three lifting days a week, two Isometric days. I suggested to one of our most promising young heavyweights, that he practice lifting his usual Monday, Wednesday and Friday schedule, using the Medium, Light and Heavy System. 90% of limit on Monday, 80% of limit on Wednesday, Limit on Saturday. His Isometric days with this lifting schedule would be Tuesday, Thursday and Friday on an ordinary exercise week.

Competitive lifters, on the last week before their contest, usually train about 90% on Monday, 80% on Wednesday, their contest on Saturday. There are so many contests in some areas, almost weekly in this district, yet Bill March continued to make progress, because he added his Isometric training with weights. By getting in Isometric training days on Tuesday and Thursday, with such a tapering down for a contest system, progress in lifting ability would be two to four times as fast.

The usual system of American competitive weight lifters has been to rest Thursday and Friday, with a light day on Wednesday, this is not a good way to make overall progress. I would suggest to our fellows that they take minor contests in stride, do not taper down, but have their usual hard training days, rest before the contest and do their best. I have noted, with the passing years, that the lifters from other countries were concerned about this loss of training time. The Egyptians for a time tried resting only one day. It did not work too well for them. The Russians tried lifting on Thursday morning, so that they would have all of that day, after the lifting, the entire next day for rest, and Saturday for the lifting. They were trying this because they thought there would be less lost time. So one of the best pieces of advice we can give you, is to exercise Isometrically on Thursday and on Tuesday, when you have a contest on Saturday.

One of the biggest advantages of Isometric training is the fact that you can train any time. I came home at mid-night recently and stated that I was going to do my exercises. Surely you are not going to train at mid-night was the question? and I said, "I have to train some time and there is no other time. It will not take long." I trained Isometrically that night and got good results in about ten minutes. Often when time is limited I perform 5 movements, each for 12 seconds, one minute in all. You could easily perform ten exercises in ten minutes Isometrically. It takes a bit longer to change the weights if you are using the Isometric Training With Weights system. Easy for two or three fellows training together to train for an hour. I can change the weights faster as I work from the top down, and use mostly 25 pound weights for my adjustment. These I keep on two chairs on either side of the rack and I make good time.

Rarely am I at home to see the Saturday night fights, but I did see them one night recently, I would watch a

round, dash down to my gym and perform an exercise, hurry up to see the next round, then rush down to perform the next exercise. The fight went the limit, and I was able to perform my ten exercises between the rounds. When I watch a television show, which is also rare with me, I watch the show and perform my exercises when they broadcast a commercial.

Often I train while I am getting ready to go to the office in the morning. Do an exercise, put lather on my face, another exercise, shave, another exercise, brush my teeth, another exercise, continue getting dressed as I exercise. People say, don't you get too warm and go out soaking wet? Isometrically, you do not build up much heat, no fatigue, no sweat.

Frequently I exercise Isometrically or nearly so, using the bathroom door. I bend my legs and keeping my arms straight, I push hard against the top of the door. I bend my legs and press with bent arms against the top of the door. I raise and lower on toes and bending knees while offering various amounts of resistance. With my arms. I push against the side of the door, I practice lateral raises against the side of the door, and I curl with any object I can find. I put a chinning bar up when I must, when I am away from home. The one I have holds particularly well, can support my weight of 240 to 250, very well.

Another good exercise is to raise feet on a chair, and hold oneself in the push up position at various levels. It's easy to damage hotel rooms, so be careful. I was pulling against a wash basin and I pulled it loose. In Kiev, our fellows were pushing from wall to wall and one wall came down, much to our regret.

At Ole Mississippi (Univ. Mississippi) before the team goes on the field, and when they return from football practice, they all line up with their backs against the wall, go in a low leg pushing position, and push as hard as they can with their legs. Try this, and you will be surprised how your muscles come out like steel cables, that is, if you have been training for a time.

While we went from place to place in Russia, I often found something to hang on and do my leg pull up exercises. As I did in Tokyo, when they took the photos of the exercise I suggested for our president to help his ailing back. I have not gone as far as co-author, Al Roy, he pulls and pushes on everything he can find. Attorney R. O. Rush told me that he performs these movements in his front yard in view of the passersby. He hangs from his feet for a while each morning. Many men are crazy about strength and muscles, and the super health these exercises bring them, and they push everything that can be pushed, pull everything that can be pulled, twist everything that can be twisted. Some go around with a gleam in their eyes looking for something to exert their new found strength against.

Another quite popular way is to make Monday and Tuesday Isometric days, Wednesday a 90% lifting day, I would be satisfied with less lifting on Wednesday, were it not for the fact that weights which are too light can be handled in a faulty manner, and

erroneous habits will be acquired. It is important to handle enough weight to force you to lift correctly, yet you can not lift on your nerve too often. As we so often say, you must be your own trainer for only you know how you feel, only you know how much you can stand. Only you can differentiate between whether you are lacking in strength and energy or whether you are just lazy. Don't work on your nerve too often, yet you must extend yourself at regular intervals, make demands upon the muscles so that you will gain at maximum speed.

Thursday and Friday, Isometric training, Saturday, limit lifting. Body Builders should follow a similar system, Monday, Tuesday, Thursday and Friday Isometric, Wednesday and Saturday, a real workout going through the complete movements of all the exercises, and working sets if that is the course you are following. You can perform some of these exercises with the bar between the uprights, you can perform others using the long pins, and working outside of the uprights if you prefer.

We suggested before, that if your form was not too good, in the lifts, that you should have three lifting days, two Isometric days, but if your form is pretty good in the lifts, you will progress faster, if you have only two lifting days, three or even four Isometric days.

If you are following a system of training which includes 4 Isometric days, Monday, Tuesday, Thursday and Friday, on Wednesday you can do limit training with the Super Power Rack, seeing how much weight you can handle in the various exercises, the push from the shoulders, the shoulder shrug, the raise on toes, the dead lift, etc. On Saturday you may train without the rack. This is the most interesting day of the week for most fellows. For this is the day they will determine their progress, see how much they can lift if they are lifters, find what they can press and what they can dead lift.

TRAINING SUGGESTIONS

It is so important that the entire range of movement with weight training be practiced at times. The entire press, the entire pull, the entire deep knee bend, so that the muscles will become accustomed to the entire range of movement. This is particularly important to weight lifters, for the champion lifter requires considerable skill in all the phases of the three lifts. You have noticed that a golfer, a tennis player, a baseball player, endlessly goes through the motions required in his sport. Going through the entire range of movements in lifting or exercising accomplishes the same purpose. We must remember that Louie Riecke and Bill March, in practicing their lifting, built muscular skills which would not be built by the usual strength and health seeker, unless he uses the full motion at times, with movement rather than the Functional Isometric Contraction System only. The combination of the two, the Isometric Contraction, against an immovable object, or, the Isometric System with Weights, builds the most athletic ability, the finest physique, and the best all around physical excellence.

How you use the Isometric-Isotonic Super Power Rack must be determined by what you wish to accomplish. If your primary purpose is to improve as a weight lifter, I think there is no better way to train than the way Bill March and Louis Riecke trained. Both are competitive lifters, and during the time they made their most rapid progress, they had competition nearly every week end. The competition would usually take place on Saturday night, and quite often a full night of driving was required to come back home. Nevertheless, these ambitious lifters would train Sunday evening, Monday and Tuesday also were solely Isometric days. After completing the course of Isometric exercises on Wednesday, these lifters go through a moderate program of weight lifting training. If heavier weights were used, up to 90% of limit, the Isometric exercises would not be performed that night.

They would rest completely on Thursday and Friday on weeks when there was important competition on Saturday. When they merely tried themselves out on Saturday, they would take just a one-day rest. This system worked well for both of these lifters.

When you have completed the preliminary training and you are ready for the single maximum effort system, train this way every other day for a time, Monday, Wednesday or Friday, or Tuesday, Thursday and Saturday. On the intervening day, continue to practice the entire range of movement, the press the entire way, the pull the entire way, the deep knee bend the entire way. On these days, practice the shoulder shrug, the toe raise, the straddle lift and other movements through the entire range. We don't have enough evidence to determine whether favorable results can be gained with Functional Isometric Contraction, or Isometric Contraction with weights alone, for a long period, for everyone I know who practices this new system of training, does something else, practices some game, or runs, or swims, or climbs. We do know that those who have received the best results have been weight lifters; who have lifted weights at least once or twice a week, usually twice, a day of moderate training and a contest or a day of limit training. Others who have done well with Isometric training have been athletes of various sorts and of course obtain a good measure of additional, complete training from the practice of their sport.

Gradually work your physical condition up to the point where you can pull and push with a maximum effort, putting a super human effort back of trying to push a little harder, or trying to pull a little harder.

I like the Isometric Contraction system with weights, for only with weights can you determine exactly what you are doing. When you set the pin two above the pin on which the weight rests, and you push or pull up to the pins, and you know how much weight you have, you can keep a record of it. You cannot be sure whether you are putting forth a maximum effort when you are working against an immovable object. You might take things too easy to get results, and it is possible for you to pull or push hard enough to pull a muscle, or hurt a

tendon, in some manner, unless you are hardened to the work you are doing by continual training. With weights, you can measure your progress, train progressively.

The absolute minimum that should be practiced with the Isometric Contraction System of Training, is three. One push, this usually at height of head; one pull, this being the middle pull; one bend, this being above parallel. Many trainees like the raise on toes and the shoulder shrug, so well that they will include these in the minimum of five.

If it works well for you, two bends, two pulls and two presses, plus the raise on toes and the shoulder shrug, the program that Louis Riecke used most of the time, should be ideal for you. You may have to vary your program. If you gain rapidly, your program is a good one. If progress is slow, you may be doing too much or too little. You will have to experiment a bit to see just what is wrong. Try less for a time, if that does not do it, try more.

Don't fail to do your hanging exercises, coupled with the frog kick. This exercise provides many benefits. Strengthens the arms and shoulders, strengthens and slenderizes the mid section, improves your posture as it aligns your spine. I repeat, it is a very valuable exercise and always should be included in your training program.

Remember that the body must overcome fatigue first, before it can build its cells or tissues. The greater the stress to which the muscle and the body has been submitted, the longer time is required for it to recuperate. There is no growth until complete rest has occurred.

Those who have the happy faculty to recuperate faster, will gain faster. Usually the one who gains faster is he who follows the rules of healthful living closely. One of the most important rules is to supply the body with the nutritional elements it needs for body building, for maintenance and repair. The body will not build itself until all bodily needs for heat, energy, maintenance and repair are satisfied. So to gain your physical desires, make sure that your body is well nourished.

COURSE #1

A DETAILED RECORD OF THE TRAINING PROGRAM OF LOUIS RIECKE

Functional Isometric Training

After a few calisthenics to warm up the back, shoulders and legs, exercises such as are found in the Bob Hoffman Daily Dozen, toe touches, side twists, touching toes alternately with either hand, twists, deep knee bends, the cat stretch, the following exercises were practiced with absolutely no deviation and no added movements of any kind, during the latter nine-tenths of the program, except the once a week testing of his improvement in strength, by lifting weights either on a limit day of training or in actual competition.

Exercise No. 1. See illustration. Press Lockout. Set the bar at a height about three inches below the lock out position, arms fully extended overhead. Grasping the bar with hands about shoulder width apart, look straight ahead, tighten leg, hip and back muscles and push on bar as hard as possible from 6 to 12 seconds.

Exercise No. 2. See illustration. Press start. Set the pins about chin height. Use same grip as in Exercise No. 1. Again tighten legs, hips and back muscles, look straight ahead and push on bar as hard as possible for 6 to 12 seconds.

Exercise No. 3. See Illustration. Rise on toes. Set the bar at a height where it will rest just touching or a little above your neck and shoulders, when you are standing in front of it in an erect position. Keep the knees and hips locked tight, the back straight, and the head slightly turned back. Hold hands on bar at a comfortable position. Rise on the toes and push on the bar as hard as possible for 6 to 12 seconds.

Exercise No. 4. See illustration. Pull. Set the bar at a height where it will be six or seven inches below the waist. Use same grip as in No. 1 and 2, rise on toes slightly, look up slightly, bend the arms and pull as hard as you can for 6 to 12 seconds.

Exercise No. 5. See illustration. Parallel Squat. Set the bar at a height where it will rest on the back of the neck and shoulders when you are in a squat position with the thighs parallel to the floor. Place the hands on the bar in a comfortable position and rise, pushing with the legs as hard as possible for 6 to 12 seconds.

Exercise No. 6. See illustration. Shoulder Shrug. Set the bar at a height where it will be in your hands when your arms are fully extended downward. Grip the bar with hands about shoulder width apart. Shrug the shoulders upward as hard as possible for 6 to 12 seconds. Keep the arms and legs fully extended at all times.

Exercise No. 7. See illustration. Dead Weight Lift. Set the bar at a height where it will be about two inches below the knees, when you are holding it with hands about shoulder width apart. Keep the head up, the hips down and the back flat. Push hard on the legs and pull up as hard as you can for 6 to 12 seconds.

Exercise No. 8. See illustration. Quarter Squat. Set the bar at a height about four inches below the height it would be if you were standing erect, with the bar across the back of the neck and shoulders. Grip the bar with the hands in a comfortable position, and push up with the thighs as hard as possible for 6 to 12 seconds.

COURSE #1

FUNCTIONAL ISOMETRIC CONTRACTION TRAINING

without Weights

Functional Isometric Contraction Training.
Complete course as practiced and posed
by Louis Brooks.



Exercise #1 Press Lockout



Exercise #2 Press Start



Exercise #3 Rise On Toes



Exercise #4 Pull



Exercise #5 Parallel Squat



Exercise #6 Shoulder Shrug



Exercise #7 Dead Weight Lift



Exercise #8 Quarter Squat

Keep the head up, the back flat, and the heels on the ground.

After this exercise it is advisable to set the bar in the highest position and hang by your hands, and pull the knees up to the chest from ten to twenty repetitions. This will keep the abdominal muscles firm and in good shape, stretch and align the back.

THIS IS THE ENTIRE ROUTINE. DO NOT DO ANY MORE. Follow this routine exactly, do each exercise only once each day. Doing more will slow or stop your improvement.

1. Dr. Ziegler predicted as a result of this routine I would not only not experience the fatigue caused by my former barbell and weight lifting routine, but I would actually have more energy after the workout than ever before. This has certainly been true. There were days when I had had a particularly trying day and did not feel energetic enough to go through my new routine, but I forced myself to do it and found that after I had finished, I not only had completed my workout as scheduled, but felt much better and more energetic than before I had started.

2. It takes from one to two weeks to get the "feel" of this routine, so don't give it up after a few days if you do not feel as if it is helping you. You should notice definite, measurable improvement within one to two months.

3. Care must be taken to continually and consciously exert all possible pressure upon the bar at all times. Since no actual movement is involved no results are observable while doing an exercise and "loafing" must be guarded against. I believe that 100% effort at all times is necessary, so I must concentrate on maximum effort before attempting each movement.

This is a problem not encountered in barbell movements, because sufficient effort must be exerted or you will not complete the movement. But in using the Isometric-Isotonic Super Power Rack without weights, a push of 50 pounds does not look any different than a push of 500 pounds.

4. Competitive lifters may find that by following this routine and excluding all lifting movements, they will find themselves "out of the groove," in short, "out of form" when they resume lifting heavy weights. It will be necessary for them to do some weight lifting practice one other time a week in addition to their total weight lifting day, especially if their form needed improving when they started this routine. But they will find in any event that their body power is tremendously increased right from the first few weeks.

5. I believe it better to complete this routine in as short a period as possible. For a while I was resting and listening to the radio between exercises and stretching my workout to 30-45 minutes, instead of the original 20 minutes. But I found that I got a better workout and felt better if I rested only long enough to recover my breath.

A Few Important Points in Summary.

1. Do not do too much! One repetition in eight

different movements is plenty.

2. Conscientiously strive to put forth 100% effort on every movement for 6 to 12 seconds.

3. Complete your routine in 15 to 20 minutes. Do not rest too long between movements.

4. Keep an accurate record of your workouts and chart your progress.

Louis Riecke's Improvement in Less Than Five Months with the Functional Isometric Contraction System of Training

My work with the Functional Isometric Contraction System of training started to be an experiment to determine the amount of strength the human skeletal muscle could be increased by means of a single maximum contraction performed once a day in a group of exercises. The strength of the muscles was tested once each week by means of five movements, using a barbell to measure the amount of weight lifted.

The lifts used were the three Olympic lifts, (Press, snatch, clean and jerk, which are the basis of competition in official weight lifting, the world over) plus the dead weight lift and the full squat, two basic exercises which involve the largest and strongest muscles of the body.

The subject of this experiment, or rather demonstration as it became, was an adult (34 years old) competitive weight lifter who had been lifting for fourteen years and had trained very regularly for the six years prior to this experiment using the best accepted methods followed by all other American weight lifters, of handling progressively increased poundages in workouts to increase strength. There was no change in the training routine or living conditions, except that Functional Isometric Contraction training was substituted for all other weight training, except during the limit or tryout day, each week. It is reasonable to believe therefore, that Functional Isometric Contraction training, the only change in the Louis Riecke life and training, was responsible for the truly phenomenal gains in strength and lifting ability which were made.

A record was kept of every exercise performed each day, as well as the test lifts with the barbell, once each week. As a matter of additional interest the subjects anthropometric measurements were taken at the start of the experiment and at the time of the final outstanding total to determine to what extent muscular hypertrophy accompanied the increase in strength. These measurements were taken "cold" shortly after arising, at 8 A.M. The exercises were performed daily on a simple apparatus adjusted to the height required by each of the eight movements performed.

To minimize the unconscious reducing of force applied to the larger muscle groups in event of the slipping of the hand grip, the hands were strapped to the bar on those exercises in which the bar is held by the hands.

For unavoidable reasons, as in the case of travelling and being far from the training quarters or other influencing factors, some workouts were missed. The workouts averaged four days per week, plus the day on which

CHART OF LOUIS RIECKE'S PROGRESS TRAINING WITH THE FUNCTIONAL ISOMETRIC CONTRACTION SYSTEM

Date	11-21-60	12-28-60	1-4-61	1-24-61	1-25-61	2-3-61	2-13-61	2-20-61	3-7-61	4-3-61	4-15-61	5-12-61
Press	255	285	280	285	280	290	255	285	295	295	303	300
Snatch	265	270	275	290	255	280	285	285	275	285	303	305
Clean & Jerk	315	330		350		335	320	340	320	360	368	375
Olympic Total	835	885		925		905	860	910	890	940	974	980
Squat	450	440				460		470	485	480		
Dead Wt. Lift	435	450				460		470	450	480		
Total	1720	1775				1825		1850	1825	1900		
Body Weight	179	185		181		182½	182	181½	181	180¾	181×	181
Gym Total	X	X	X		X	X	X					X
Meet Total				X							X	

barbells are used, to test improvement. Also some weeks, the "total" day was missed because of lifting contests or some unavoidable reason. Editors note. While Louis Riecke followed his program exactly as outlined, in continuing this program he feels that a lifter should have one other day of form training with sufficient weight to cause him to perform the movements properly.

Several factors must be noted here.

1. Some of these totals were made in competition, so it was not possible to perform the dead weight lift and the squat movements on those days.

2. It is noteworthy that the subjects bodyweight remained practically constant, though his muscular measurements increased and his physical appearance was remarkably improved.

3. No special change was made in diet, although the subject continued his habit of including as much good protein rich foods in his diet as possible.

THE MOST DIFFICULT PART OF THIS COURSE

And now I come to by far the most difficult part of this course. Telling you how to train with weights and the Hoffman Isometric-Isotonic Super Power Rack. Isometric training with static resistance has been so simple. Yet it is not the complete answer to obtaining your physical desires. Those who have done so well with Functional Isometric Contraction have been weight lifters, football players, basketball players, track and field men and other athletes, they have trained in most cases with a minimum of Functional Isometric Contraction to improve themselves at their chosen sport.

For those who are not athletes, for those who are body builders who seek the limit in strength and development, for those who are weight lifters who want the limit in weight lifting ability, not for a short spurt, but for the long pull, for years and years, once again I must say, it is much more difficult to outline the proper method of training.

With Functional Isometric Contraction it is possible to obtain a very rich physical reward for the moderate

time spent in training. We have said that the absolute minimum program should be three exercises. One of the presses, one of the pulls, one of the knee bends. If you are to use this minimum program for a time, you will be wise to vary your exercises. One day perform the top press, the high pull, the quarter bend. Another day, the middle press, the middle pull, the middle knee bend. Still another day, the press at chin height, the pull from below the knees, the full knee bend below parallel. Another abbreviated program would be, adding the raise on toes and the shoulder shrug (two of the best exercises). I believe that the next jump should be the 8 exercises followed by Louis Riecke. Two presses, two pulls and two bends plus the raise on toes and the shoulder shrug. When you have reached the ability to put forth a maximum effort as Louis does, an effort which makes possible a more than 300 pound press, a more than 300 pound snatch, a 375 clean and jerk, eight exercises will be enough.

In fact, Dr. Ziegler, in checking his trainees, watches them closely and if he thinks they are working a little hard, cuts them down to the Famous Five, the Press, the pull, the bend, the toe raise, the shoulder shrug. Here you have only one minute of actual exercise, 5 times 12 seconds, and so amazing is this system of training, that sensational results can be obtained in this one minute of actual training. Before the demonstrations that have been made recently with this system of training, the immortals of this form of training being Bill March and Louis Riecke, almost no one in his right mind would believe that a high grade of strength, physical and athletic ability could be obtained in a single minute training time.

Particularly when it has been common for leading body builders, those who are favorites for the Mr. America crown, to train a full eight hours in a day and eight hours day after day.

So Functional Isometric Contraction with Static Resistance is an easy, simple way to train.

Right now, although this method of training is still

little known, on many football fields, there are crude Isometric racks, where the players, as they complete their long practice, come over and do their two presses, two pulls, and two bends. Football has become so complicated that it is easy to feel that there is no time for other training. But strength is the most important characteristic of a star football player, and with proper training this strength is combined with speed and endurance. It has always been the author's contention that to obtain a maximum of benefit from weight training it should be practiced the same day that other athletic training takes place. We will cover this situation more thoroughly when we come to the other specialized books, *Functional Isometric Contraction training for Football*, *Functional Isometric Contraction Training for Basketball*, *Functional Isometric Training for Track and Field*. It is so essential that strength building exercises be a part of training for any athletic sport. Now, with this wonderful system of training, it is so easy to include strength building with the practice of one's sport. This will mean such great improvement in the performance of athletes that all the world's records in all sports will be broken and rebroken many times in the years to come. There is no limit to what can be done with this system of training to improve athletic performance.

Hoffman Isotonic-Isometric Contraction racks, will be installed in offices, in factories, in schools, where anyone and everyone can perform their few exercises at any time of the day. A wonderful outlook for the future of our country. Truly we have the knowledge, the system to build this stronger and healthier America which is so necessary to our very survival.

FUNCTIONAL ISOMETRIC CONTRACTION TRAINING WITH WEIGHTS

I believe that the very best form of training is *Functional Isometric Training With Weights*. *Functional Isometric Contraction* with Static resistance has many advantages, but you do not know what you are doing. You can not measure your output of effort, all you can do is press, pull and bend with all your might. And the might of some men will be so different than the might of others, the ability to put forth a maximum effort with some men will be so much superior to others. As Louie Riecke said, "the onlooker can not tell the difference between a 50 pound press and a 500 pound press, and the trainee can not be sure either."

It is easy to loaf along through your program without putting forth a maximum of effort. One of our rules is, that to build maximum strength, you must put forth maximum effort. And it is possible too, to put forth too much effort.

Men can pull hard enough to pull a muscle, a tendon, a ligament, even injure a capillary or small blood vessel, particularly when they have not undergone preliminary training for a time, before putting forth a maximum effort. Only with weights can you know exactly what you are doing, how much effort you are putting forth, you will know that you are not loafing, not doing too

little, and also you will know that you are not doing too much. You will know just how much force you are exerting for how many seconds. With *Functional Isometric Contraction*, it may be hard to maintain maximum force. With *Isometric Contraction With Weights*, you hold the weight for the desired 12 seconds, and if you can not do this, the next training day you take less weight resistance in that exercise.

In training with *Isometric Contraction With Weights*, you set the pin of your Hoffman Isometric-Isotonic Super Power Rack at the desired top position. For instance, three inches below the lockout position for the top press, at the top of head for the middle press, at chin level for the starting press, at breast bone level for the high pull, at top of belt for the middle pull, two inches below the knees for the low pull, or dead lift, four inches below legs straight position for the top knee bend, half way between parallel and the top bend position for the middle bend, below parallel for lower bend. For the raise on toes, you place the pin so that you can exert maximum force when raised on toes, and for the shoulder shrug set it so that you can pull the bar up against it when you pull to your limit. The lower pin is usually set two notches below, so that you can pull or push the weight from this position to the retaining pin.

You use the progressive method of training, striving to handle more and more weight as the days and weeks pass. And this is very important. Keep a book in which you mark down all of your training periods. Thus you can trace your progress.

In any given exercise, if you find it possible to pull or push the bar against the restraining pins, if you wish, you can exert more force. And the next time you perform this particular exercise, you should increase the weight resistance.

Very heavy poundages can be used with the Hoffman Isometric-Isotonic Super Power Rack. I have seen Riecke and March use more than 400 pounds in the low press, nearly 300 in the middle press, over 500 in the lockout press. The first time Riecke tried our adjustable rack, after he had trained without movement for a long time, I saw him press, 350-370-400-425, from the top of his head to the lock out position. The middle press is the sticking point, so it is important that considerable training be done at that point. In addition to the exercises which serve best for improving weight lifting ability, the three presses, the three pulls and the three knee bends, many other exercises can be performed on the Hoffman Isometric-Isotonic Super Power Rack in the same manner. I wish to say at this time, that although the Famous Three Three's bring exceptional results to weight lifters, they would be very helpful in fulfilling the physical desires of any other man. They build all around strength in the body, in the positions in which it is most natural to exert force. The fact that Bill March, with no special training, built such a magnificent, contest-winning physique and that Riecke

built an admiration creating physique, is the best proof that the Three Three's have unusual all around value and will bring the man who practices them a very rich reward.

MUSCLE CONTRACTION WITH MOVEMENT (M.C. c M)

Muscle Contraction with movement, scientifically known as (M.C. c M.) has been known by some workers as Isotonic Contraction. This is a Misnomer. We have been reluctant to change the name for this term has been used for a long time, but if we don't change it, the misnomer will go on indefinitely.

ISO means Equal, TONIC pertains to tone or tension. ISOTONIC, (Medical definition as applied to muscle) a muscle that contracts without movement on stimulation with its tension remaining the same. (when pressing up against an immovable object, the triceps is contracted with the tension remaining the same). Actually ISO-TONIC, without movement and with balanced tension, should be the name of the training system which has long been called ISOMETRIC CONTRACTION. The definition of ISOMETRIC is ISO—equal, METRIC—a measure, an equal measure, or a measure of the same dimensions. (medical definition as applied to muscle)—a muscular act showing mainly the changes in tension in a muscle without any marked shortening. When pressing up against an immovable object, the triceps is contracted with the tension varying, as exerting a pressure, relaxing, tensing, and relaxing again.) This is certainly not Isometric as we know it. Equal measure of tension without moving.

You can apply the correct name if you wish ISO-TONIC CONTRACTION, but the name has been used for many years, improperly translated from the German, and we fear much confusion at this stage if we change the name. We hope in time that the proper name, the proper definition of the movement will be utilized.

Instead of using Isotonic with movement, which is wrong, we will call this type of training **MUSCLE CONTRACTION WITH MOVEMENT**—Limited, over a short range and B. Unlimited—over a long range of movement.

There are many forms of movement. The complete range of movement that is no different from the weight training we have been doing all of our lives. Then there is the limited range of movement training where the weight is pulled or pushed over the limited range of the exercise. The starting press from the shoulders to eye level, the middle press from eye level to five or six inches above the head, the top press from 6 inches below the lock out position to the arms straight position. Repetitions should be practiced with this type of training, and the exercises can be practiced in sets if desired.

We have a chapter titled, Other Exercises Which Can Be Performed With the Isometric-Isotonic Super Power Rack. And of these exercises any can be performed in sections, similar to the three three's which is the basis of this method of training. With the curl, you can hold

at the starting position, the middle position and the top position. In the bench press you can work three ranges, or have three holding positions. In the leg press you can have three holding positions, very low, intermediate and near extension. It is believed that greater strength can be developed when the muscle is near extension than when it is near contraction.

At the Mr. America contest this year we saw a man with terrific arm development who could curl 205 pounds. We asked him how he developed that curling ability. He said that he hit upon the idea of doing a number of holds for 12 seconds each in the low position of the curl one day, in the intermediate position the next day and in top position the third day. One more illustration that this type of training works.

The most practiced method of Muscle Contraction with movement, is the method that Bill March used, the method that most of us in York have used. The method I have used most of the time myself, is the pulling or pressing of the suitably loaded bar, from the pins on which it rests to the desired holding position. For instance in the low press, the pins are set so that the bar can be easily taken upon the upper chest. Then the bar is pressed to the holding position, chin level, and there it is held for twelve seconds. We have a clock with a large second hand where we can see it, to time ourselves with the holding of the weight.

In the intermediate press, the pins are set at eye level, and the bar is pressed to top of head level, there it is held for 12 seconds. In the top position, the bar is set so that the weight is pushed up to three or four inches below the lock out position and there it is held for 12 seconds. The three pulls and the three bends, the shoulder shrug and the raise on toes are done in similar manner.

This method of training is quite similar to the method described as Isometric Training With Weights, except the pins are not set above the weight.

There are a number of trainees who move the weight over a range of an inch or two while the bar is in the hold position. I can not be sure whether this speeds strength and muscle building or not. The rules say that there is more cellular action when the tension is held in equilibrium, is steadily balanced and Dr. Ziegler says there is no dissipation of the effort when the load is held without movement, while with movement there is some lost motion.

Any of the exercises aside from the famous three times three can be practiced with this method.

There are two forms of **MUSCLE CONTRACTION WITH MOVEMENT**. In one, the bar is pushed or pulled over the full range of movement for a number of repetitions, usually six. If you were practicing only a few movements, you could practice in sets if you wish. Many men of my acquaintance who are using this system will hold the 6th movement at the holding position for 6 seconds. I have practiced this method for a long time in abdominal exercising. I hold a pair of dumbbells on my chest, sit up partially five times, and hold the 6th one for the count of 12, while pushing hard against the

dumbbells.

One of the young men in our Gym, at the York Barbell building, Charence Schell, performs a very extraordinary feat in this exercise. He actually takes a pair of hundred pound dumbbells from the rack, holds them a little above his shoulders, sits on the bench, hooks his feet under the bench, sits up six times, holding the last one for the count of 12. He weighs only 148 and is just a fair lifter, although he has trained in our gym for years. As far as I can determine, he learned this method himself, before we were talking Isometric-Isotonic or Muscle Contraction with or without movement. It has brought him good results.

Any exercise can be practiced with the Hoffman Isotonic-Isometric Super Power Rack over the entire range of movement. A full press from shoulders to locked arms, repetitions if you wish, full pulling movements from the below knee position, pulling to the third position, repetition raises on toes, repetition deep knee bends, repetition leg presses, repetition straddle lifts, or any of the hundred or so good movements which can be practiced with this splendid piece of equipment. You can work between the uprights if you wish, or place the bar outside on the long pins if you want to perform lifting motion exercises or walk away from the machine to perform your squats or other exercises.

COURSE #2

HOW TO USE THE HOFFMAN ISOMETRIC-ISOTONIC SUPER POWER RACK

Some fellows like to work from the bottom up, that is with the heavy full squat being the first exercise after the Hanging Frog Kick Exercise. They move up through the Parallel squat, the three pulls and the three presses. They usually perform their nearly straight leg dead weight lift and the 1/8th knee bend when the weight is at the position which suits them best. The author of this course, and many others who train alone, prefers to start at the top and work down. This is easier, when one man is making the changes.

In moving up, when two train together, it is not difficult to raise the partially loaded barbell. I keep a strong chair on each side of the Super Power Rack and thus I can take off and put on plates with speed and comparative ease. Practice will help you determine which method you prefer. We will list the exercises from the top down and you can reverse them if you desire.

1. Hanging from bar, pull up legs like frog kick.
2. Final Press Out and hold weight about 4 inches below lock out position.
3. Middle Press—Starting at eye level and pressing about 8 inches.
4. Starting Press—from starting position to eye level.
5. High Pull Up—wide grip-pull up from belt level to breast bone.

ISOMETRIC-ISOTONIC TRAINING FOR THE LADIES

More than half of the population of our great nation are females. To build a stronger and healthier America, it is necessary that the female of the species be strong and healthy, too. During all of the years of Strength and Health magazine, we have published an article about physical training for the ladies, monthly, almost without exception. It has been hard to get the ladies to exercise. If they feel well and look fairly well they are content. If they don't feel well, of course, they can't exercise. A condition similar to the leaky roof, when it doesn't rain, it does not need fixing, when it rains, you can't fix it.

But here is a system of training which will bring outstanding results for the ladies too. The hanging exercise, with bar overhead, is of particular advantage. It slenderizes the entire body, strengthens the midsection, improves the posture.

The minimum three, the double or triple three, with added exercises such as the raise on toes, the shoulder shrug will benefit the ladies as much as the men. So fellows, urge the ladies in your household, your mother, your wife, your sister, your sister-in-law, your girl friends, to make use of this wonderful system of training. This system will produce millions of beautiful, magnificently built, super healthy, vital, enduring American women. As we have said before girls, let's make the most of it.

6. Pull up from extended arms to belt position.
7. Dead hang type of pull from below knees, hanging arm, straight back position.
8. 1/8th knee bend with very heavy weights.
9. Middle Leg Press position from parallel position to 1/8th bend position.
10. Full Squat Position from lowest squat to parallel.
11. Raise on Toes.
12. Shoulder Shrug.

Hanging exercise to complete the training program

1. It is more convenient to leave a 5' bar at the top of the Isometric side of the Super Power Rack. Hang from this with the knuckles toward the body. Keeping heels together, pull the legs up as far as possible like a frog kicks. Advanced men pull the knees up high enough to touch the body. The object of this exercise is to warm up the body, prepare it for the harder work to come, to extend and align the spine, to develop all of the midsection, notably the abdominal muscles. 10 to 20 repetitions.

2. Exercise to improve your ability to hold weights overhead. Many championships are lost because the lifter fails to hold the weight overhead. Set the pins so that the weight is four or five inches below the extended

arms position. When you are exercising, press to arms length, lower and repeat the desired number of times. When you are training for maximum strength, press the weight to arms length, lower about three inches and hold for 9 to 12 seconds in this position.

3. **Middle or Intermediate Press.** This exercise is designed to aid the lifter to pass the sticking point, the point where so many lifters fail. Set the pins so that the weight is at eye level. In exercising from this position, using a poundage which permits correct performance, press from eye level to a position a few inches above head. When working for maximum strength, hold a very heavy bar at head height for 9 to 12 seconds.

4. **Starting Press**—Set the pins so that you can assume the position of the starting press with weight on chest. Press to eye level. Many advanced lifters can use 400 pounds in this exercise. When training for maximum strength, take the heaviest weight you can press off the starting press pins, press it to chin level and hold for 9 to 12 seconds.

5. **High Snatch Position.** This exercise is the top of the snatch position. Set the pins so that the bar is even with the breast bone. Using a wide grip, pull the weight as high as you can. When training for maximum strength, pull the weight up to the breast bone, at the same time raising high on toes, raising chest and shoulders, throwing head back as in the very heavy top snatch position. As in all of these exercises, press or pull mightily against the bar for 9 to 12 seconds.

6. **Pull to Middle Clean and Snatch Position**—Start with bar against the thighs, arms straight. From this position pull the bar so that it reaches the top of belt position, as if you were going to place it on the belt to continental clean. As you pull, raise high on toes, raise chest and shoulders, throw head back, pull mightily. Much of your success as a weight lifter depends upon the correct execution of this exercise with a very heavy weight. Hold in high position for 9 to 12 seconds.

7. **Partial Dead Weight Lift.** Starting with the barbell just below the knees, the legs are working, the back is pulling. As an exercise the movement ranges from the knees to the back straight position with arms hanging straight. As a super strength exercise, the bar is drawn up so that you are standing with the back leaning forward at a slight angle. Here you continue to pull mightily against a very heavy weight for 9 to 12 seconds.

8. **1/8th Bend with a Very Heavy Weight**—Set the pins so that you can get under the bell with the legs partially bent. As an exercise, straighten the legs, lower and repeat. Advanced men use as much as 1000 pounds in this exercise. To use this amount, you need a special 8 foot, two inch steel bar. The bar that is usually employed with the Super Power Rack is 7 feet long, made of tempered Chrome Vanadium Steel. It will hold 800 pounds. This exercise will impart power to the muscles which straighten the legs and also will assure that the weight can be driven strongly to overhead in the jerk. As a power exercise, hold the bar with the knees slightly bent for 9 to 12 seconds.

9. **Middle Leg Press or Knee Bend**—This exercise will start with the legs parallel to the floor and finish at the 1/8th bend position. As an exercise, a power movement; range from parallel to the 1/8th position, or hold the barbell about half way between the lower and upper positions for from 9 to 12 seconds.

10. **The full Squat Position.** This exercise should never be neglected as it is important to have maximum strength in the lowest position. Squatters must be strong in the low position. As a low split is actually a one-legged squat with the front leg, it is necessary to build strength in the low position.

Lifters perform this movement from the low position to parallel with the weight held on the upper chest. Non lifters place it upon the back. As an exercise, move from the low squat position to parallel. For years we have been writing that the Oriental lifters who are such fabulous squatters, perform their quarter squats from the bottom up. This is the exercise which will help you. As a power movement, the weight should be held for 12 seconds between full squat and parallel.

11. **The raise on Toes.** One of the most important exercises. Set the pins so that the bar is barely above the shoulders. Raise on toes raising the weight as far as you can. This can be a repetition exercise, practiced with the toes turned in at times, at other times turned out or straight to the front. Great strength can be developed in the feet, plus spring and power which will help in any athletic sport or game and will help in the business of living. As a power exercise, support the weight in the highest possible position for 9 to 12 seconds.

12. **The Shoulder Shrug.** Set the pins so that the bar is held with the arms at full length, downward. From this position pull the bar up as far as possible by shrugging the shoulders. As an exercise, you can practice in series of six each. As a power exercise, hold the weight as high as you can for 9 to 12 seconds. One national champion hammer thrower uses up to 800 pounds in this movement.

To end your training program, hang from the bar for at least a minute. This will stretch and realign the spine.

It is not wise to perform too many exercises or you will defeat the purpose of this kind of training. The program is intended to permit hard exertion without fatigue so that the muscles will start building immediately after the exercise program is continued. When you start your training, and do not handle maximum poundages, you may find it easy to perform the hanging movements, the Raise on Toes, the Shoulder Shrug, the three presses, the three pulls and the three bends. But when you learn to exert greater force Isometrically, or use heavier poundages, so many exercises may be too much for you and retard your progress. You do not feel that you are working too hard. You simply do not make the progress you expected, or may make no progress at all. At this point consider your system of living.

COURSE #2

ISOMETRIC CONTRACTION WITH WEIGHTS

USING THE HOFFMAN
ISOMETRIC-ISOTONIC
SUPER POWER RACK

*Isometric Contraction With Weights. Complete Course as practiced
and posed by Bill Marsh.*



Exercise #1 Hanging From Bar, Pull Up Legs
Like Frog Kick



Exercise #2 Final Press Out To Lockout Position



Exercise #3 Middle Press



Exercise #4 Starting Press



Exercise #5 High Pull Up



Exercise #6 Middle Pull



Exercise #7 Dead Hang Pull



Exercise #8 1/2 Knee Bend



Exercise #9 Middle Leg Bend



Exercise #10 Full Squat



Exercise #11 Raise on Toes



Exercise #12 Shoulder Shrug



Hanging Exercise to Complete Program

Are you eating sufficient of good food to supply the body's needs for energy, for building, maintenance and repair? Are you including too many leaks, harmful habits such as smoking, drinking alcoholics, too much of candy, soft drinks, white sugar and white flour products? Natural food is the best.

If your living habits are good, if you follow the essentials of health as completely as possible, if still you do not gain, you may be performing too many exercises. Reduce to two presses, two pulls, two bends. With the raise on toes and the shoulder shrug, with the two hangs, you will have ten movements. If this is still too much, reduce to the minimum, one press, one pull, one bend, one raise on toes, one shoulder shrug, one hang. If this does not make it possible for you to forge ahead, you simply will have to take a few days off.

We have tried to make this program clear to you. We hope you will have no difficulty training properly.

It is the greatest training system ever devised. Truly, it should be the answer to all of your physical desires. If there is something you do not understand, if your progress is not as you would like it to be, write to us. Bob Hoffman Foundation, York, Pa. Perhaps we can help you. We are very interested in your success.

ADDITIONAL EXERCISES WHICH CAN BE PRACTICED WITH THE HOFFMAN ISOTONIC-ISOMETRIC SUPER POWER RACK

The majority of exercises can be practiced Isometrically or Isotonically on the Power Rack. An excellent basic training course could be practiced as follows. Nearly every one of these exercises can be practiced in three positions. On varying training days, support a heavy resistance at the desired point of the exercise for 12 seconds. As the press has three positions, the pull



Bent Over Rowing Motion,
Muscular Contraction with
Movement.



Upright Rowing Motion,
Muscular Contraction with
Movement.



Inclined Bench Press With
Multi-Purpose Board.



Two Hands Curl, either
Isometrically or With Move-
ment.

three positions, the knee bend three positions, the curl three positions, the bench press would have three positions, too, as would nearly all other exercises. Considering that you can multiply these 30 movements by three, plus the basic nine and the hanging movements you already have a hundred exercises to practice over a period of time.

It will be wise to go through the entire range of these movements at times to join your strong points together, to coordinate the various strength positions.

You will find that the Isometric principles lend themselves well to many forms of weight training and weight lifting.

1. Regular curl.
2. Upright rowing motion.
3. Regular press.
4. Bent over rowing motion.
5. Flat foot deep knee bend.

In addition to these basic exercises which can be practiced Isometrically, there are a great many other exercises which can be practiced with the Hoffman Super Power Rack. The Hoffman Super Power Rack is designed to make possible the handling of very heavy poundages in all the lifts with safety. As the uprights are 5 inches apart, there is room for the movement which is necessary to consummate the presses, rowing motions, dead lifts and cleans.

The rack has an even greater value for the trainee who works alone. He can load the bar to any desired weight in any desired position. He does not need one or more training partners to help him get the weight in position. He can save his energy which would be used getting the bell to the exercising position, by loading the bar just where he wants it. In heavy lifting, such as the leg press, the deep knee bend on toes, the deep knee bend with weight overhead, the rack will provide a margin of safety and keep the weight in balance. Too many barbell men are unable to build great strength because they are not able to train at all with heavy poundages, certainly not safely with heavy poundages.

Weight lifting is the safest sport in the world according to statistics but there have been cases where a lifter would find it impossible to complete a bench press,

and there he was alone with a 300-pound barbell on his chest. With the Hoffman Power Rack, this could not happen.

The Hoffman Power Rack is so substantially constructed that anyone can use it as a heavy squat stand, a leg press machine, a press bench. In this latter case, you will require some sort of a flat bench, a box, or a chair without a back.

These exercises will quickly build greatly increased strength, and as stronger muscles are larger muscles, and larger muscles are heavier muscles, you will gain in good, muscular bodyweight. You will be better built, a great deal stronger and be much improved in appearance and overall health and vitality.

1. Raise on toes. Practice with three foot positions. Straight to the front, turned in and turned out.

2. Shoulder shrug. If you are using Muscle Contraction With Movement, you should revolve the shoulders as well as pulling straight up.

3. Back hand or regular curl with barbell. In training, practice the low position of the curl, the middle position and the high position.

4. Chinning with the bar in one of the higher levels. If at first you cannot chin, practice holding your weight in the low position, the middle position and the high position. Chin with knuckles toward the body, with palms toward the body, chin behind neck and chin with palms facing each other as you pull your head toward the bar.

5. Leg curl. Use a low bench to get in position for this exercise.

6. Pull over.

7. Press behind neck.

8. Stiff legged dead weight lift.

9. Pull up from knees to chin.

10. Bent arm Pull Over.

11. Bent over rowing, parallel, 45 degrees.

12. Barbell press on bench. Training either isometrically or isometrically with weights you can practice three positions. With all of these exercises, many of which are done in the static or nearly static position, at times the entire range of movement should be practiced. This is neither Isometric nor Isotonic but it will provide good strength and body building development.

13. Straddle lift. One of the best It is difficult to

perform this exercise from the floor as the back is so twisted that heavy weights can not be lifted. By loading the bell to the proper position, you will exercise with hundreds of pounds.

13. Deep knee bend on toes.

14. Bend over or Good Morning exercise.

15. A variation of this lift, a very good one which will improve weight lifting ability. With the weight on the back go nearly to the parallel position, in coming up move slowly at first, then nearing the top straighten the back with a powerful jerk, at the same time, rising on the toes.

16. Leg Raise.

17. Leg Press. Few can perform this exercise with a heavy weight without assistance. With the Hoffman Super Power Rack your only limitation is the strength of your muscles, tendons and ligaments and these will gain rapidly in strength. This is a lift where you could gain the average 5% a week, double your strength in twenty weeks.

18. Deep knee bend as in Squat cleaning, hold the bar on the chest, elbows raised high, head turned back.

19. Upright rowing, close grip.

20. French press, barbell.

21. Dead weight lift behind body, often called the Hack Lift.

22. Sitting press. Front press and press behind neck

23. Inclined bench press. Use as many angles as possible.

24. One legged deep knee bend.

25. Thumbs up curl. Use towel under barbell to practice this movement.

26. Forward raise.

27. Pull down standing. Isometric only. This is performed with straight arms extended to the front.

28. Head strap exercise. Even teeth lifting if you have a mouthpiece.

29. The Hoffman power rack permits the practice of a great many exercises with bodyweight. Partial chins at any point, presses in the floor press position. Dead weight lift to belt.

30. Straight leg raise from the hanging position. You should obtain a strong board with hooks on one end, this can be used to place over your bar for an abdominal raise, an inclined board. All of these result producing exercises will build your strength, improve your appearance and your health. Best of all, it will save you time and energy. With the great diversity of exercises you can do, you will never find training monotonous. As you continue to train with this interesting and result producing method of training, many worthy exercises will suggest themselves to you.

Procure a good sized tablet or note book. This is important. You must keep a record of your progress. You might become famous as others have done and need this record of your progress. Andrew Carnegie, at one time said, the most interesting reading is a savings bank book. I believe you will find the record of your physical progress just as interesting. If you are a beginner, it would be average for you to gain 5% a week, double your strength in 20 weeks, approximately five months. Champions and near champions could not gain that fast, but Riecke gained 45 pounds on his press in two months, Bill March gained from 745 to 985 pounds on his total. Tommy Kono breaks world's records in nearly every contest.

The rapidity of your gains in comparison with your starting poundages will be determined by how weak you were to begin. One thing sure, you will make gains with this superior system, at a rate which will please you.

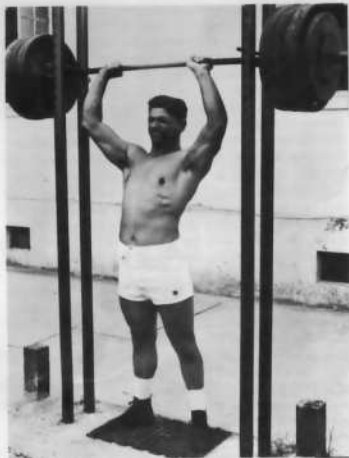


THE SENSATIONAL RISE OF

LOUIS RIECKE—WEIGHT LIFTING STAR

In December of 1960, Louis Riecke was a good lifter, but not one of the world's greatest. In June 1961, only 6 months later, he proved himself to be one of the world's greatest weight lifters. At the senior national A.A.U. weight lifting championships we saw this practically unknown, 34 year old lifter Louis Riecke, giving Tommy Kono, the world's greatest lifter, a man who had won

nine world titles, including two Olympic titles, who had set 26 world records during his career, the battle of his life. Tommy Kono pressed 310, Riecke pressed 300, Kono snatched 290, Riecke 300, both tie at 600. After two lifts. Both cleaned and jerked 365. Riecke missed 380, Tommy was successful with this weight. But it was a long to be remembered battle of the physical giants.



Louis Riecke demonstrating Functional Isometric Contraction Training With Weights. 375 pounds held against the top pins.



Isometric Biceps Curl.

The audience buzzed, how did he do it, how did he train, what happened to this man Louis Riecke? For those who knew Riecke were familiar with the facts that Riecke was a member of the L. S. U. team way back in 1949. Some knew that Riecke had been junior national champion, national Y.M.C.A. champion, southern champion many times, but his usual lifting had been 200-220-280, total 700. At the senior nationals this year,

although he did not total quite his best, 965, his best is 980, he came close. His best lifts at present are 303 press, 305 snatch, 375 clean and jerk. The 305 is quite noteworthy. Jim George of the U. S. team held the world record for nearly four years at 303½ in this class. Dave Sheppard officially holds the United States record at 304½. The world record has moved up to 310, but Louis Riecke will get that record soon. He had 314½ to arms length in the Moscow lifting, when our team visited Russia.

Actually Louis Riecke's recent great success started when he was selected last year to be a member of the Olympic weight lifting clinic which was held in York. He trained with the York weight lifting team, he met Dr. John Ziegler, too, and when he went back to his home in New Orleans, he wrote to Dr. Ziegler and York regularly. Late in November we decided to ask him to be the guinea pig to see what could be done with the Isometric form of training. He was selected for a variety of reasons. He was a reliable man who could be depended upon to keep his training methods and his progress secret. We did not want the information to get around until it was proven a success. He was a weight lifter who had been training for a long time, 14 years. He had made little progress recently. He had some medical training. He was enthusiastic, ready and willing to give his time, his effort, to sacrifice, to risk his chances to make the world's championship team this year, as he demonstrated this comparatively new system of training for the first time with heavy weight lifting.

He lifted weights as before, once a week, the difference was simply the pulling, pushing and tugging he did against the immovable object — his training rack. Louie kept accurate records of his training experience, exact records of his workouts, his body measurements, his strength improvements.

I can assure you that this great improvement by a man who liked weight lifting, who was ambitious to be an international star, who wanted to tour the world to represent his country, is the answer to a dream, a realization of a life long ambition, ambition that nearly passed him by, until Functional Isometric Training and his own ambition, his willingness to work, to follow instructions, caused him to become an international star. If you had heard the roar of the 12000 people who crowded the big hall in Moscow, where the matches between the U.S. and Soviet teams were being held, as Riecke made successful lifts, you would have known that he was receiving a considerable reward for proving that the Isometric system of weight training is a superior method of strength and muscle building.

Having been the subject of such a great success with Functional Isometric Contraction applied to weight lifting and weight training, no wonder he asks you to train likewise. And we are happy to say that this is not the end. With this form of training, there is every reason why Louis Riecke will be a great international weight lifting star for at least 15 more years, until he reaches

the age of 50 at least. Even now, with slight streaks of grey in his hair he is just on the verge of even greater triumphs. He should rank with Sheppard and Gagarin, for his exploit was a break through into the realm of the unknown as were their trips into space.

In addition to the great strength he developed as proven by his greatly increased lifting records, Louis Riecke built an amazing muscular development. He had muscles such as many of us thought we had never seen before. When he pulled on the bar, a great collection

of muscles writhed and stood out. He would not enter a physique contest, but we are sure he could win many of them as he has the type of physique that all admire. Broad shoulders, sloping trapezius, column like neck, great deltoids and arms, a latissimus which has a bulging curve. Unsurpassed trapezii, which have a circle in their center even when in repose, a slender, well muscled waist and fine legs. He is masculine perfection, a physical thing of beauty to behold. Proof that all around physical benefit results from the Isometric form of training.



THE SENSATIONAL RISE OF

BILL MARCH—WEIGHT LIFTING STAR

A few short years ago Bill March, of the York Barbell Club, was a four letter man in high school. He played basketball, baseball, football, and ran track. He was a good tumbler and diver, too, but his efforts had not brought him a very great physical reward, for he weighed only 135 pounds.

He learned about weight training and three years later he had gained to 170 pounds. About this time Bob Hoffman, who always needs weight lifters, urged him to concentrate on weight lifting. He made good progress as a lifter and the next year, weighing 176 pounds, he totalled 745, this being a total of the three lifts used in competition the world over, two hands press, two hands snatch, two hands clean and jerk.

He continued to improve, and weighing light in the 181 pound class, he totalled 800 to win the national Y.M.C.A. championship. Good lifting but not enough. Bill could not qualify for the national A.A.U. championships for this required a total of 825. He had a new resurgence of ambition when the Olympic clinic was held here before the Olympic games of 1960 at Rome, and he surprised a large section of the world by coming up rapidly in his lifts. In five consecutive contests he made lifting totals of approximately 880. This is nice lifting, but not good enough. He was pretty well discouraged, for it seemed that he could not gain a pound.

Louis Riecke had started with his Isometric training early in December, 1960. By the middle of March, 1961, he had made good progress, secret progress for even his best friends did not know what he was doing. Dr. Ziegler and I thought it would be a good plan to put Bill March on the twin training system. Isometric

with weights, so Bill started driving between Olney, Md. and my little Home gym, in the next room to where I am writing this at home. Later we put a Hoffman-Ziegler Isometric-Isotonic, Super Power Weight Training Rack in our little gym at the Strength and Health center north of York. We kept Bill's training secret, too.

Immediately, Bill improved sensationally. Two weeks later we drove to Schenectady, N.Y. and Bill won the Eastern States championship in the 198 pound class with a total of 915. The very next Saturday in Brooklyn he won a big open contest and also the best lifter award with a total of 930. A week later we drove the 500 miles to Toledo, Ohio, where Bill successfully defended his national Y.M.C.A. title, the best lifter award, too, with a total of 950. I was so happy, I couldn't sit still. I drove all night on the way home, wide awake and as happy as I had ever been in my entire life. Not only because Bill did well, but because I saw some hope for American weight lifting, American athletics, for the American people, their friends and their allies. I saw what could be done.

The next week in winning the Middle Atlantic championships which were held in York, Bill totalled 970, consisting of 310 press, 295 snatch, 365 clean and jerk. More amazing still, he entered the physique contest, against his will, but we wanted the people to see his magnificent body, and we talked him into it. He won the title. The next week at Emmaus, Pa., he won the Pennsylvania state title with a total of 980, and he won the title Mr. Pennsylvania. He beat some very good men in this contest, and people were all asking where he got those wonderful pectorals, how many sit-ups did he do



United States weightlifting Champion, Bill March, of the York Barbell Club. The man who proved the value of the Isometric Contraction System of Training With Weights.

to gain those washboard abdominals, what special exercises did he do to get those terrific arms, more like



For 15 years, from the age of ten to twenty five, Bob Hoffman trained with dumbbells, Indian Clubs, pulley weights and took part in many forms of athletics. As a result of this 15 years of hard training, he weighed 170 pounds, had a 36 inch chest, was 42 inches around the shoulders. Starting at the age of 25, using what came to be known as the York system, a combination of heavy weight training and weight lifting, he made impressive physical gains. The day this picture was taken, when he was 43 years of age, he weighed 266 1/2 pounds, had a 52 inch chest, was 58 inches around the shoulders and lifted 262 pounds overhead with one hand.

John Grimeks arms than any I have seen. And the answer to all of these questions was the same. No special exercises, simply Isometric training with weights four times a week, weight lifting once a week, limit training or a contest on Saturday, one form day of training on one of his Isotonic days.

Bill won the Junior national A.A.U. weight lifting championships, setting four new junior national records. We tried to get him to enter the physique contest, but he refused, he wanted to be just a weight lifter he said. His wife played her part in talking him out of it, she said that she wanted him to be a strength athlete, not a "Pretty Boy." The chances are good that he would have won the Junior Mr. America title, for the same judges were serving as had served in the two previous contests he had won, as the junior nationals were held in the Middle Atlantic District, our territory, as were the others and he has developed one of the most magnificent physiques ever possessed by any man.

Still later, we journeyed to California and there Bill realized a cherished ambition. He won the senior national A.A.U. championship, beating some good international lifting stars and former champions and record holders in the bargain. And he realized another ambition. When he missed the Olympics he vowed, that next year he will go, he won't stay home again. He was on the verge of missing that honor, when Isotonic training came into his life and helped him reach the heights. He went on the Russian and European trip, he lifted for his country in Moscow, Leningrad, Kiev, Bili on the Black Sea, Paris and London.

Bill is young, only 24. He has a long life of weight lifting triumphs before him. He too deserves a great deal of credit for risking his weight lifting future with this new system of training. He too should rank with the astronauts for he too made a journey into the unknown, an unknown world of Isometric physical training, and like Sheppard and Gagarin, he too, was successful.



Johnny Terpak, for 12 years U. S. and World Weight Lifting Champion shown as he won the world title in Paris. After thirteen years of little weight training, Johnny has made a sensational comeback through the Isometric Contraction Training with Weights System. After 13 training periods, he had arms which felt like a 16 pound shot, legs which felt like a collection of steel cables, and he was often taken for his son's brother, instead of his father!

ABOUT JOHN ZIEGLER, M. D.

He first applied the "Functional Isometric Contraction System"
to: heavy exercise, weight lifting, body building and athletics

JOHN ZIEGLER, M.D., of Olney, Maryland, has long been a barbell enthusiast, a weight lifting and weight training devotee. In college he was a weight lifter as well as a medical student. During World War II he was in a hurry to help his country and enlisted in the marines to play his part in the Pacific Islands fighting. Although severely wounded (he has plates in his leg and head), he went back to college, finished his medical education, his internship and finally became a surgeon and general practitioner at Olney, Md., just outside of Washington, D.C.

During all of these trials and tribulations, he never lost track of the value of weight training. In fact, he constantly trained himself, building his injured body to its present strong and healthy condition. He is a big man, 6' 4-1/2" tall, and has developed enough strength to do leg extensions with over 300 pounds.

Dr. Ziegler has done considerable muscular rehabilitation work—first with his own body, and later with many physically handicapped men. He has done considerable cell growth research and successfully applied the principles offered in this little course to physical rehabilitation. Dr. Ziegler and Bob Hoffman have long worked together in an endeavor to do their part in building a stronger and healthier America. One of their most interesting and result producing associations was a trip to the world's weight lifting championships in Vienna in 1954. There were side matches in Copenhagen, Paris and Germany. On this trip, we first heard about the training principles that have become known as Isotonic and Isometric. Dr. Ziegler instituted research and experimental work during the years which intervened. And, the Riecke-March experiments and demonstrations have further proved the soundness of our teachings. Dr. Ziegler has built an extensive research gymnasium and medical center at Olney, Md.

These two men, Bob Hoffman and Dr. Ziegler, working together, spending at least one day a week together, being in constant touch by telephone, have already accomplished much. This little course and the book on Isometric-Isotonic training (which is being prepared at this writing) will be other big steps forward to building a stronger and healthier America, better athletes and better weight lifters.



Remarkably life-like quality is revealed in this extraordinary bust of Steve Stanke.





functional
ISOMETRIC
CONTRACTION
system

by BOB HOFFMAN

FIVE BOB HOFFMAN ISOMETRIC SYSTEM

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